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EDUCATION

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DEPARTMENT OF THE INTERIOR
BUREAU OF EDUCATION

BULLETIN, 1921, No. 11

PHARMACEUTICAL EDUCATION

By

WORTLEY F. RUDD
IN COLLABORATION WITH
P. F. FACKENTHALL

[Advance Sheets from the Biennial Survey of Education
in the United States, 1918-1920]



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PHARMACEUTICAL EDUCATION.

By WORTLEY F. RUDD, in collaboration with P. F. FACKENTHALL.

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THE BEGINNINGS OF PHARMACEUTICAL EDUCATION.

Any history of pharmaceutical education during the two years 1918 to 1920 would be wholly incomplete without a review of the influences which have brought about the conditions during the period under consideration.

In pharmacy, as in medicine and law, the preceptorial system largely prevailed for the first century of pharmacy in the United States. Previous to 1851 there were but 3 teaching schools of pharmacy in existence; and only one, the Philadelphia College of Pharmacy, had sufficient life to maintain itself as a bona fide educational institution. In 1873 there were 11 teaching institutions in active operation, located in Philadelphia, New York, Cincinnati, Baltimore, St. Louis, Boston, Chicago, Louisville, Washington, Nashville, and San Francisco, with an attendance of approximately 600 students.¹

The organization of these schools was due largely to the educational stimulus disseminated by the American Pharmaceutical Association, which had been organized in 1852, and to the various State pharmaceutical associations, which at that time were beginning to exert considerable influence.

At the twenty-first annual meeting of the American Pharmaceutical Association, Albert E. Ebert, in his presidential address, thus commented upon the organization of pharmaceutical schools:

Although it is by no means desirable to multiply these schools to an unlimited extent, as this would diminish their usefulness by dividing their strength, yet the time is not far distant when it will seem necessary that each State shall possess such an educational organization, as good effects of such institutions can not be questioned in their relation to the public welfare, and therefore should be fostered by the several States where such schools are established.¹

¹ Proc. Amer. Phar. Assoc., 1873, p. 52.

The nature of the work done in these early institutions is summed up by Dr. Edward Kremers, dean of the school of pharmacy of the University of Wisconsin, as follows:²

As a matter of fact, the early history of all these institutions clearly shows that they were "Fortbildungsanstalten" closely affiliated with the daily routine of the drug store. The idea was not so much to give a thorough training in the fundamental sciences as to supplement the unsystematic training of the stores by a course of evening lectures. This truth is particularly emphasized by the fact that the clerk who had served an apprenticeship of two or more years attended the same course of evening lectures at least twice. It was the apprenticeship system improved, but still essentially the apprenticeship system. The time spent in the drug store was, therefore, the prime requisite to a certificate of proficiency. The course or courses of lectures simply served as a kind of superstructure, their prime object being to bring into some system the information and experience irregularly acquired during an apprenticeship and assistanceship of four or more years.

In 1887 the number of teaching institutions had increased from 11, as reported in 1873, to 28, the additional ones in the order of their organization being as follows: Pittsburg, Vanderbilt, Albany, Iowa (Drake University), Cleveland, Wisconsin, Ohio Northern, Purdue, Ohio State, Kansas City, University of Kansas, University of Iowa, Northwestern, and Buffalo.

Dr. H. L. Taylor calls attention to the fact that it required more than half a century to establish half of these institutions, and the other half sprang up within a decade.³

From the best information available we find that in 1887 there was a total of 2,773 students matriculated in the schools then in existence, with 669 graduates that year.⁴

The great majority of these schools were night schools, the students' classes beginning after 4 o'clock in the afternoon and continuing as late as 10.30 p. m.⁵ These were three-day schools, the first year's work coming on Mondays, Wednesdays, and Fridays, the second year's work on Tuesdays, Thursdays, and Saturdays. The school year began about the first of October and closed early in March.

More than half of the students attended college for the first year only, being able to meet the legal requirements for the practice of pharmacy without completing the prescribed college course.

Preliminary educational requirements were limited to a grammar school certificate or an examination that required a knowledge of arithmetic, geography, and grammar, as far as was taught in the grammar schools.⁶

² Proc. Amer. Conf. Phar. Faculties, 4th ann. meeting, 1903, p. 5.

³ Pharmaceutical Era, Mar., 1912, p. 178.

⁴ Ibid., May, 1912, p. 333.

⁵ Ibid., May, 1912, p. 334.

⁶ Ibid., Apr., 1912, p. 264.

THE ENACTMENT OF NEEDED LAWS.

The conditions that existed at that time led pharmaceutical educators to realize that proper advancement in pharmacy was impossible without legislative enactment covering both preliminary requirements and college training as prerequisites for examination as registered pharmacists.

Naturally such a movement was met with bitter opposition on the part of those who saw in this a curtailment in the supply of registered clerks, and, second, by those who honestly believed that students should be allowed to acquire a knowledge of pharmacy by the methods most available to them.

Unfortunately, from the very beginning to the present time the same opposition has existed and has done more to retard advancement in pharmaceutical education than any other single factor.

Between January 1, 1887, and January 1, 1900, 30 colleges of pharmacy were established and three went out of existence.⁷

CLASSES OF PHARMACY SCHOOLS.

The department of pharmacy of Tulane University of Louisiana⁸ may properly claim the honor of being the oldest of the schools of pharmacy connected with a university. Between 1834 and 1887 diplomas were conferred upon 165 graduates in pharmacy from that institution.

Although Tulane did not at that time have a coordinate school of pharmacy, the graduates were given courses in materia medica, therapeutics, chemistry, and chemistry laboratory by the staff of the medical department; and before the degree of graduate in pharmacy was conferred, the applicant furnished evidence of having two years of practical experience under a competent pharmacist.

While this school was not a university school of pharmacy in the present acceptation of the term, yet its influence stimulated the development of university education as it now exists.

In 1868 the University of Michigan established the first coordinate school of pharmacy, as a university unit.

The following statement, from the address of Dr. Edward Kremers furnishes a clear exposition of the divergent educational ideals which have been confronting pharmaceutical education from its very beginning:⁹

There are two distinct tendencies which manifest themselves to the student of pharmaceutical education in this country; the first found its highest expression in the establishment of the older colleges of pharmacy, the outcome of the ambitions and ideals of the apothecary guilds of several of our larger

⁷ *Ibid.*, June, 1912, p. 389.

⁸ *Ibid.*, March, 1912, p. 180.

⁹ *Proc. Amer. Conf. Phar. Faculties*, 4th Ann. Meeting, 1905, p. 4.

eastern cities, a product of English ideas, traditions, and influences; the second found its expression in the establishment of departments and schools of pharmacy at our State universities, at a time when American educational ideas generally were undergoing marked changes due to the influence of German educational ideas and methods.

It is noteworthy that the educational bulwarks of the Colonies, now the pride of the respective Eastern States, have never given any serious attention to teaching pharmacy. For many years, it is true, medicines were largely dispensed by the colonial physician, and later the druggist evidently did not aspire to be more than a tradesman with the qualifications of a tradesman. The condition was not unlike that in England, where the pharmacist, whether he was termed apothecary, or chemist and druggist, as was later the case, gradually made himself independent from a position of subserviency to the physician. But, instead of strongly developing his own position, he followed the path of his former master. The result was a calling that was neither purely mercantile nor belonged to the learned professions; a profession that commanded little or no respect, but became the butt of ridicule on every hand as is clearly shown in English fiction.

With English traditions as a guide, it was but natural, therefore, that Harvard and Yale, Columbia and Pennsylvania, although they made provision not only for the traditional college course, but also for theology, law, and medicine, paid no attention to the needs of pharmacy.

The introduction of university standards into the field of pharmaceutical education, as brought about by the University of Michigan, is an outstanding event in the history of American pharmacy.

This change in the old order was followed by other State universities as follows:¹⁰ Wisconsin in 1883, Kansas and Iowa in 1885, Minnesota in 1892, etc.

By 1895 the university ideals were so firmly established that we find the following statement in the proceedings of the section on education and legislation of the American Pharmaceutical Association:¹¹

Institutions that were founded by "impractical" university teachers have proven their right of existence to such an extent that those who criticised them in former days, though still ostensibly maintaining their earlier ground, are in reality undermining their own foundation by silently accepting the ground of their supposed opponents.

THE AMERICAN CONFERENCE OF PHARMACEUTICAL FACULTIES.

The beginning of the twentieth century found 56 schools in active operation, with a total attendance of 3,551 students. These 56 schools were working as independent units, with no uniformity in entrance requirements, curricula, or degrees conferred.

As far back as 1870 a conference of delegates from colleges of pharmacy met in Baltimore in answer to a call issued by the Maryland College of Pharmacy.¹²

¹⁰ *Pharmaceutical Era*, March, 1912, p. 178; June, 1912, p. 389.

¹¹ *Proc. Amer. Phar. Assoc.*, 1895, p. 448.

¹² *Proc. Amer. Conf. Phar. Faculties*, 1906, p. 8.

We have no report of the minutes of this meeting, nor of subsequent ones, except in the minutes of the meetings of the Philadelphia College of Pharmacy, as published in the American Journal of Pharmacy. Joseph Roberts was president and J. Faris Moore secretary of the first meeting. The constitution declared the object to be a uniform standard for the graduation of pharmacy students. Seven recommendations were made at the first meeting for consideration at the second convention. The most important one seems to have been the demanding of four years of practical experience before graduation.

At the 1883 meeting the department of pharmacy of the University of Michigan was refused admission because it did not make this requirement. The degree of doctor of pharmacy was also unanimously voted down. The last reference to work of this organization appears in 1886.

The period from 1886 to 1894 seems barren of organized effort toward unity in pharmaceutical education. Just prior to the 1894 meeting of the American Pharmaceutical Association, James H. Beal and George B. Kauffman issued a circular letter inviting a number of colleges to meet in conference at Asheville, N. C. This effort failed to accomplish the purpose for which it was intended. Six years later Henry P. Hynson, secretary of the Maryland College of Pharmacy, issued a similar call which met with much better success.

The preliminary organization of the American Conference of Pharmaceutical Faculties was consummated at Richmond, Va., May 8, 1900.¹³ Representatives were present from the following pharmacy schools:

Department of Pharmacy, College of Physicians and Surgeons, San Francisco, Calif.

National College of Pharmacy, Washington, D. C.

Atlanta College of Pharmacy, Atlanta, Ga.

Department of Pharmacy, Northwestern University, Chicago, Ill.

Highland Park College of Pharmacy, Des Moines, Iowa.

Department of Pharmacy, University of Kansas, Lawrence, Kans.

Louisville College of Pharmacy, Louisville, Ky.

Massachusetts College of Pharmacy, Boston, Mass.

Maryland College of Pharmacy, Baltimore, Md.

Department of Pharmacy, University of Michigan, Ann Arbor, Mich.

St. Louis College of Pharmacy, St. Louis, Mo.

Department of Pharmacy, Union University, Albany, N. Y.

Brooklyn College of Pharmacy, Brooklyn, N. Y.

College of Pharmacy of the City of New York, New York, N. Y.

Ohio State University, Department of Pharmacy, Columbus, Ohio.

Department of Pharmacy, Scio, Ohio.

Philadelphia College of Pharmacy, Philadelphia, Pa.

Department of Pharmacy, Medico-Chirurgical College, Philadelphia, Pa.

¹³ Proc. Amer. Conf. Phar. Faculties, 1906, p. 9.

Department of Pharmacy, Western University of Pennsylvania, Pittsburgh, Pa.
Department of Pharmacy, Vanderbilt University, Nashville, Tenn.
Department of Pharmacy, University of Wisconsin, Madison, Wis.

The chairman of the organization committee, Jos. P. Remington, presented a provisional constitution, which was read and approved, the most pertinent paragraph of which was as follows:

The object of this conference shall be to promote the interests of pharmaceutical education.

The birth of the organization marks the first successful effort toward proper standardization of pharmaceutical education and is, therefore, the most important event in its history.

The problems which the conference faced in its inception and to which it has continuously given attention during its 20 years of existence are: Preliminary education, curricula, degrees, facilities, faculties, and prerequisite legislation. As has been stated before, the completion of an ordinary grammar school education was the sole requirement for matriculation in the majority of pharmacy schools.

The effort to raise these requirements originated with the schools having organic connection with State universities. The independent schools, having no other source of income than tuition fees, naturally viewed with concern any step that would tend to curtail their enrollment. The attitude of the State examining boards and the existence of numerous correspondence schools and "quiz" schools made the situation a most difficult one.

As late as 1912 we find the following conditions obtaining with regard to preliminary education¹⁴ necessary for examination by licensing boards:¹⁵ 24 States make no requirement whatever, 12 require a grammar school education only, 7 in which the board is given authority to fix requirements, 7 require one year or more of high-school work, and 2 require high-school graduation.

From a close study of the conditions as indicated by the above data, it is apparent that had the independent schools raised their entrance requirements much above those prescribed by the licensing boards in the various States, they would undoubtedly have been faced with the problem of having a large proportion of their prospective students turned to quiz schools and correspondence schools.

Not until 1904, when the National Association Boards of Pharmacy was organized,¹⁶ was there any attempt on the part of the State boards to bring about better conditions in regard to preliminary educational requirements for registration.

¹⁴ *Pharmaceutical Era*, Jan., 1912, pp. 21-24.

¹⁵ This includes Alaska, Hawaii, the Philippines, and Porto Rico.

¹⁶ *Pharmaceutical Era*, June, 1912, p. 393.

In 1905 requirements for entrance into conference schools was raised to a minimum of one year of high-school work. The first State prerequisite law became effective at the same time in New York.

Coincident with the latter event, the board of regents of New York set about to determine what should be the proper standards for the registration of schools of pharmacy in that State.¹⁷ A conference was, therefore, held and a committee appointed to outline a course for the schools of pharmacy and a syllabus to govern both the schools registered by the regents and the examinations set by the State board of pharmacy. This committee conceived the idea of giving the work a national character. In September, 1906, an invitation was extended to the National Association Boards of Pharmacy and the American Conference of Pharmaceutical Faculties, each to elect a representative on the committee.

Through correspondence and occasional meetings the committee continued its work, and the first edition of the pharmaceutical syllabus was issued in 1910. This was approved by the organizations represented and was adopted to cover the syllabus period, August 1, 1910, to July 31, 1915.

Thus was brought to a successful issue the effort to bring together the teaching institutions and the examining boards in a comprehensive and permanent agreement regarding the powers and obligations of each. By July, 1912, 27 examining boards had approved the idea and adopted the syllabus in whole or in part, and 62 of the 83 then existing schools had taken the same action.

THE UNITED STATES PHARMACOPŒIA AND THE NATIONAL FORMULARY.

The passage of the Food and Drugs Act in 1906, and the subsequent adoption of the United States Pharmacopœia and the National Formulary as the official Federal standards, gave them a legal standing, which they had not heretofore been accorded. This legal recognition has had a marked influence upon the scientific character of later editions and is reflected in more scientific methods in pharmaceutical education.

JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION.

Prior to 1912 the proceedings of the American Pharmaceutical Association had been published annually as a single volume. Beginning with January of that year the Journal of the American Pharmaceutical Association was established and has been issued monthly since that time.¹⁸ While the prime object of this publica-

¹⁷ *Ibid.*, Sept., 1912, p. 576.

¹⁸ *Amer. Jour. of Phar.*, Mar., 1912, p. 130.

tion originally was to furnish a more direct and speedy means of communication between the association and its members, it has, however, in the last few years become a scientific publication which has proved a strong stabilizing force in American pharmacy. Coincident with the inauguration of the Journal, plans were perfected whereby all pharmaceutical literature should be abstracted, published annually, and distributed to all members of the American Pharmaceutical Association as the yearbook of the association. Those forces in pharmaceutical education with which this paper has dealt heretofore began to exert their most potent influence in the period from 1912 to 1918.

Beginning in 1915, prerequisite legislation made rapid progress. During the next three years more States adopted prerequisite laws than had taken this step in all the previous years. The American Conference of Pharmaceutical Faculties had increased entrance requirements to two years of high-school work or its equivalent. Two States, Ohio and Illinois, by legislative enactment and ruling of the department of education respectively, raised their requirements for the practice of pharmacy to four years of high-school work, and in addition graduation from a recognized school of pharmacy. The educational ideals of the universities of the Western States gained ground rapidly, and it began to be apparent that their influence in pharmaceutical education must ultimately dominate the whole country.

The National Association of Boards of Pharmacy and the American Conference of Pharmaceutical Faculties had committed themselves to both a high-school requirement and graduation in pharmacy not later than 1923. A number of the schools of the conference were voluntarily increasing their requirements to four years of high school. More than half of the students entering all conference schools were high-school graduates. The outlook for much more rapid progress was, therefore, very bright when America entered the World War.

THE PERIOD OF 1918-1920.

This review of pharmaceutical education prior to 1918 serves as a necessary background for the study of the most crucial period in its history.

Although the above is, as a whole, a record of progress, nevertheless this progress had not been sufficiently uniform in all parts of the country to give to American pharmacists the professional status which many within its ranks believed should be accorded them.

That the ultimate standard in pharmacy was no higher than the lowest State and school requirement had been evident to the leaders in pharmacy from the organization of the conference. The points of

view of the university schools and the independent schools had been so divergent at times that a division in the conference ranks seemed imminent. Fortunately, however, such schism was averted by a few far-seeing men who recognized the conference as the one organization through which the whole status of pharmacy could be advanced.

The failure of American pharmacists to receive professional recognition in the Army and Navy when we entered the World War demonstrated that, in spite of the advancement already made, much remained to be accomplished in order that pharmacy might attain a status comparable with dentistry and medicine. It became evident that, had the university ideals prevailed in pharmaceutical education, pharmacy would have been spared the embarrassment and chagrin occasioned by such failure.

The Government, in its published requirements for organization of the Student Army Training Corps, made it very clear that it considered graduation from a high school or its equivalent a necessary entrance requirement for colleges of all kinds, and it refused to recognize colleges with less requirements.¹⁹

This announcement naturally created widespread concern and even alarm among the schools that were not requiring as much as four years of high-school work for entrance. The very existence of some of the oldest and most influential pharmaceutical schools in the country, which had no organic connection with any other college or university as a parent institution and which were maintaining only the minimum conference requirement for entrance, was therefore in jeopardy should the war continue.

At the 1918 joint meeting of the American Pharmaceutical Association and of the Conference of Pharmaceutical Faculties, held in Chicago, this subject had a prominent place in the public discussions and was clearly the thought uppermost in the minds of the majority of those present.

In a paper read at this meeting Prof. Wulling²⁰ made the following statement:

It should be said that the entire body pharmaceutic is partly, even largely, at fault in the matter, because it has not been sufficiently interested and aggressive in the very element fundamental to the welfare of the profession, and therefore fundamental to the welfare of those whom the calling serves. The Government has practically said that we pharmacists as a class are not sufficiently educated and intelligent to be recognized as among the agencies qualified to be called upon to help prosecute this terrible war. This is in substance an indictment not pleasant to contemplate. We ought forthwith to create such standards that this blot on our escutcheon would be forever removed. Talking and commiserating about the matter will not remedy the situation. A little courage and determined, united action are the remedy.

¹⁹ Proc. Amer. Conf. Phar. Faculties, 1919, p. 11.

²⁰ Ibid., 1918, p. 30.

Prof. Jordan, chairman of section on education and legislation, in his address said:²¹

Not until the retail pharmacists of the United States awake to the importance of higher entrance requirements for their profession and demand them will we be able to place pharmaceutical education on a basis that will command the respect of our sister professions and of the public. As long as the retail pharmacists demand cheap registered men and lend their support to diploma factories that turn them out, just so long will pharmaceutical education be at a low ebb.

With a single exception, we find the sentiment of the 1918 meeting overwhelmingly in sympathy with this spirit.²²

Prof. Edward Spease, dean of the school of pharmacy of Western Reserve University, had taken up with the Surgeon General of the Army the matter of establishing Students' Army Training Corps units in those schools of pharmacy able to meet the entrance requirements, etc., referred to in the published program referred to above.

Col. H. D. Arnold, representing the Surgeon General's Office, came to Chicago, and an informal conference was held. Up to that time no provision had been made for keeping pharmacy students in school, as had been done in the case of medical and dental students. While Col. Arnold could give no assurance of what would be done in this regard, he stated that the whole matter would be worked out in connection with the Army educational plan, and a more representative conference be called as soon as possible. This conference was held in Washington, September 30, 1918. The following schools were asked to send representatives: University of Michigan, North Carolina, Minnesota, Nebraska, Western Reserve, Columbia (New York College of Pharmacy), Purdue, Massachusetts College of Pharmacy, and Medical College of Virginia. All of them responded except the University of North Carolina and Massachusetts College of Pharmacy. This meeting, presided over by Dr. R. C. McLaurin, chairman of the whole Government educational plan, proved to be an event of far-reaching importance. For the first time it was made perfectly clear that colleges of pharmacy must demand of their students the same conditions for entrance and the same type of professional work that was demanded in other professional schools. For the first time the Federal Government stepped in and attempted some sort of classification of pharmaceutical schools with reference to their availability as centers for Students' Army Training Corps units.

For the first time the ideals of the university schools of pharmacy were completely vindicated.

²¹ Jour. Amer. Phar. Assoc., Dec., 1918, p. 1062.

²² Proc. Amer. Conf. Phar. Faculties, 1918, p. 98.

Following the published report of the work of this conference, a storm of protest was raised by those institutions which were not maintaining the standards described in it, and which consequently did not receive recognition. Had the war continued through the session 1918-19 and into 1919-20, it is more than probable that very few of the so-called proprietary schools of pharmacy would have survived. Despite the fact of the signing of the armistice in November, 1918, and the almost immediate disbanding of the Student Army Training Corps units, the salutary influence of the classification referred to above became manifest.

Some of the colleges of pharmacy, previously counted as reactionary, at once announced their determination to raise entrance requirements to a full high-school course. Others raised entrance requirements from the conference minimum of two years of high school to three in 1920-21 and four in 1921-22, thus anticipating by one or more years the conference agreement of four years of high school in 1923. It is difficult to estimate the good effects of such an awakening on the part of those schools which heretofore had stood out for a conservative policy in the conference of faculties.

The generation of pharmacists now in training will be able to look back on the Washington conference of September 30, 1918, with a feeling of gratitude that from it emanated an advance in pharmaceutical ideals that already is having a marked effect.

With the close of hostilities and the rapid return of 4,000,000 men to civilian life, every pharmacy school in America found its freshman class of 1919-20 filled to capacity. Fresh, as many of these men were from the distractions of Army life, they found great difficulty in adjusting themselves to the demands of academic life.

In many instances men were returning to colleges of pharmacy to complete a course interrupted by the period of the war. It has, therefore, been exceedingly difficult to maintain high standards of scholarship for the past two years. With the entrance classes in 1920, however, this condition has been materially changed, and the colleges are now demanding a grade of work not heretofore attempted.

The rank and file of men engaged in pharmaceutical work, as well as of women, are now beginning to study the status of pharmacy as never before. What are the basic causes which, functioning through the history of American pharmacy, are most responsible for its present condition is the question most frequently asked. The one answer that seems to most nearly cover the ground is that all of pharmaceutical education seems to have been predicated upon the assumption that the public needs more, rather than better, pharmaceutical service. Prior to about 1905, medical education was func-

tioning along these same general lines. The complete overthrow of this conception in medicine is too well known to need very much comment in this article. Fewer doctors, but better doctors, is a slogan that has sounded the death knell of probably half of the medical schools in operation in America in 1900. A farseeing group of medical men gained control of medical education with the result that, with a population of about 25 per cent more than in 1900, the United States is now graduating annually less than half as many doctors as were being graduated at that time. With anything like a just distribution of this smaller number, the public is getting much better medical service than ever before. In spite of all the progress in American pharmacy which has been recorded in this article, it must be admitted that no such farseeing and influential group has been able to gain control in pharmacy. The result has been the licensing of from two to three times as many potential proprietors as the public has needed to render efficient pharmaceutical service.

The number of drug stores in the United States is probably three times as large as is necessary, resulting in a form of competition which is good for neither pharmacy nor the public. Since the laws of all States in the Union require that a pharmacy must be in charge of a licensed pharmacist, the one way to limit the number of stores is to limit the number of potential proprietors. For the first time, it seems to the writer, American pharmacists are beginning to realize the full significance of this fact. It is an omen for good that can be measured only by what the recognition of a similar condition in medicine 20 years ago has done for American medicine.

For a number of years it has been apparent to a majority of the members of the conference of faculties that some standardizing agency should investigate and classify the schools of pharmacy, much as the Carnegie Foundation has done with the medical schools.

By unanimous vote the foundation was requested to undertake this work for pharmacy, but up to the present time they have not been able to do so, due to the pressure of other investigations already in progress. At the 1919 meeting the conference recommitted itself to the policy of having the schools of pharmacy investigated and classified. A special committee of the conference is now at work, with the hope that in the near future the foundation may see its way clear to begin this work.

The advantage of having this investigation undertaken by some competent and disinterested agency is apparent. The result of such an investigation will doubtless reveal the weak spots in our present system and furnish the conference the basis for a thorough house-cleaning.

ATTITUDE OF THE TRADE JOURNALS TOWARD PROGRESS IN PHARMACEUTICAL EDUCATION.

The attitude of a large majority of the trade journals toward progress in pharmaceutical education has been one of whole-hearted support. Despite the fact that advanced educational requirements must inevitably mean fewer potential proprietors and fewer drug stores, these journals, whose very existence is intimately tied up with the distribution and sale of drug products, have been willing to stand for a policy which can mean nothing less than a curtailment in the sale of many of these. It can be denied by no one that such a stand on their part has had a tremendous influence in assisting in bringing about such advancement as has been made so far.

THE 1920 UNITED STATES PHARMACOPŒIAL CONVENTION.

The influence of the university school of pharmacy teacher on American pharmacy manifested itself in the personnel of the committee of revision for the tenth decennial revision of the United States Pharmacopœia. On previous revision committees the number of university school teachers was very small, while on the present committee the number has been more than trebled.

At the 1920 meeting of the American Conference of Pharmaceutical Faculties, the tendencies for progress in pharmaceutical education which have been here enumerated culminated in a pledge that beginning in 1925 all conference school courses be not less than three years and, further, that as soon thereafter as possible they require a full four-year course in pharmacy and give only the bachelor of science degree.

With the consummation of this pledge on the part of the conference and the appointment of a joint committee from the conference, the National Association Boards of Pharmacy, and the American Pharmaceutical Association to work for prerequisite laws, pharmaceutical education in America seems to be entering upon a period that even the most radical hardly dared hope for before America entered the World War.



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ENGLISH GRAMMAR
IN AMERICAN SCHOOLS
BEFORE 1850

By

ROLLO LAVERNE LYMAN
THE UNIVERSITY OF CHICAGO



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ENGLISH GRAMMAR IN AMERICAN SCHOOLS BEFORE 1850.

"A history of English grammar in the United States would afford some amusement if a rational mind could derive any amusement from perusing a record of abortive attempts to teach the correct use of language by every means but actual practice in the art of speaking and writing it."—WALLIS (W. B. FOWLE) (1850).

INTRODUCTION.

PRIMARY PURPOSES OF THE STUDY.

English grammar, as a formal subject, distinct from other branches of instruction in the vernacular, made but sporadic appearances in the American schools before 1775. After the Revolution its rise was extremely rapid. English grammar gained momentum as the hold of Latin grammar weakened, and by the end of the first quarter of the nineteenth century it became so generally taught that the common term grammar school, formerly applied to the secondary school of the Latin-grammar type, was now by common consent used to designate an intermediate school with English grammar as its central study. After 1825 the prominence of English grammar became gradually more marked, until it reached its height about 1850–1875. Then began a period of decline, continuing until the time of the Committee of Fifteen, which made its report in 1895.¹

The past 25 years have seen a revival of attention to grammar, but of a very much saner type than before. No other study in the curriculum has had a more spectacular rise and a more dramatic fall. Moreover, concerning no other study to-day are educators more in doubt.²

The first purpose of this study is to trace the course of this rise and fall, with the changing educational ideals and theories accompanying it; to analyze the causes of the varied changes of the subject, and to determine when, where, why, and by whom the successive modifications were inaugurated and carried out prior to 1850.

¹ Rept. Com. Fifteen, Jour. Proc., N. E. A., 1895, p. 232. For recommendations concerning grammar see Rept. Com. Fifteen, Educational Review, IX, 234–41.

² The National Council of Teachers of English on Nov. 27, 1915, in Chicago, appointed a committee to consider and recommend a suitable treatment in the schools of formal grammar.

The second purpose of this dissertation is to arrange systematically these varying methods used from 1750 to 1850 and to show how they are interrelated both with the shifting conceptions of the nature and purpose of grammar and with the place given the study in the curriculum.

No effort seems to have been made to develop these two important aspects of English grammar with historical accuracy. Indeed, treatises on the general curriculum, in their infrequent references to this particular branch of the vernacular, are filled with inaccurate statements of fact and with misleading generalizations, particularly in regard to the early periods.³ Only one who has had to deal with such inaccuracies can realize how difficult it is to ascertain the truth concerning English grammar. It is therefore with due reservations that the writer states, as his third purpose, an effort to establish with concrete data a basis of reliable facts, especially in the vague period of English grammar before the American Revolution.

A fourth purpose which this study has been compelled to consider incidentally is to show how grammar was interrelated with declamation, oratory, composition, and literature, as these five branches of instruction in the mother tongue of a higher order than reading, writing, and spelling gradually made their way into the program of American schools.

SOURCES.

This investigation rests primarily upon an intensive examination of early English grammars, with special attention to those in use from 1750 to 1850. The date 1750 has been determined upon as most suitable to mark the beginnings of instruction in formal English grammar in America.⁴

The grammars, then, of the eighteenth century, many of which passed through several editions both in England and America, were

³ Three examples of such errors will suffice to illustrate. One writer affirms: "English Grammar was there (in Caleb Bingham's school, 1790) taught for the first time in Boston." W. B. Fowle, *English Grammar*, C. S. J., XII (1850), 72. Here is an error of at least 23 years (see Ch. II, p. 23, which has been widely accepted as stating the truth. Again, Noah Webster affirmed that "no English grammar was generally taught in common schools when I was young." (1770. *Am. J. of Ed.*, XIII, 124. Letter to Henry Barnard, dated 1840.) This, coming from the author of at least the fifth American grammar (see Chap. II) (not the first, as commonly believed), has been largely influential in misinforming later writers upon the curriculum. Again, so careful a writer as Reeder asserts, concerning Noah Webster's "Grammatical Institutes of the English Language," "these books [a speller, grammar, and reader, 1783-1785] were the first works of the kind published in the United States. They were gradually introduced into most of the schools of the country." Reeder, *Hist. Dev. of Sch. Readers, etc.*, 30. On the contrary, Webster's grammar was not the first American grammar, and it enjoyed neither a long nor an extensive use as a textbook. W. B. Fowle, *op. cit.*, 74 and 203. Reeder's statement is accurate concerning the speller and the reader, but it is quite erroneous concerning Part. II of Webster's series.

⁴ See Chap. II, p. 33.

largely influential in determining school practices of the day. Book learning in the eighteenth century had an even more literal significance than it has to-day in many an ill-conducted classroom. "As the text-book, so the study" is a comparatively safe assumption.

So, too, for primary evidence as to the changes in methods of instruction, beginning about 1823, the writer has turned to the leading texts of the various periods. For example, this dissertation points out that 1850 was the central turning point in the history of methods in grammar.⁵ Greene's "Analysis" of 1847 was the culmination of various influences breaking away from the older conceptions and the forerunner of numerous other textbooks of the next 25 years. Likewise Swinton's Language Lessons, of 1873, came as the result of scattered agitation and efforts of the previous quarter century, and in their wide adoption Swinton's Lessons fastened upon the schools the new idea of grammar as incidental to exercises in writing and speaking. And, of a more recent period, Swett's Grammar, with its imitators, has given the still newer turn of incidental study to the subject of formal grammar.

In addition to the textbooks themselves the educational writings of authors contemporary with the various periods have thrown considerable light upon various advances made in classroom methods. To be sure, a commentator like Comenius, Hoole, Brinsley, Locke, Franklin, or Mann is usually, in his theory, more or less in advance of his time, and the reforms he advocates are indicative of methods which do not become general for a considerable period after his advocacy of them.⁶

In addition, the writer is indebted to Dr. Marcus W. Jernegan, of the University of Chicago, for generous advice and assistance, and especially for permission to use his voluminous data on private schools taken from colonial newspapers. This material has been of invaluable aid, especially in indicating many of the private schools of the eighteenth century whose schoolmasters were pioneers in adding English grammar to their curricula.

⁵ See Chap. VI, p. 133.

⁶ For example, in 1786 Benjamin Rush, of Pennsylvania, advocated, concerning the teaching of English grammar, principles which even in 1920 are very far from being accomplished.

"Let the first eight years of a boy's time be employed in learning to speak, spell, read, and write the English language. For this purpose, let him be committed to the care of a master who speaks correctly at all times, and let the books he reads be written in a simple but correct style. During these years let not an English grammar by any means be put into his hands. It is to most boys under 12 years of age an unintelligible book. As well might we contend that a boy should be taught the names and number of the humors of the eye or the muscles of the tongue, in order to learn to see or to speak, as be taught the English language by means of grammar. Sancho Panza in attempting to learn to read by chewing the four and twenty letters of the alphabet did not exhibit a greater absurdity than a boy of seven or eight years old does in committing grammar rules to memory in order to understand the English language." Wickersham, *Hist. of Ed. in Pa.*, 234. "Between his fourteenth and eighteenth years he should be instructed in grammar, oratory," etc. *Ibid.*, 255.

The history of the actual teaching of English grammar is quite different from a history of the theories of teaching grammar. Throughout this study the author has endeavored to keep strictly to the former point of view—that is, to keep a firm hold upon the actual classroom practices of successive periods. Evidence of an extensive sale of textbooks, for example, is taken as reliable proof as to what constituted the subject matter of schoolroom activities.

More reliable, however, than textbooks or educational writings for determining the exact status of English grammar at any definite period are statutes, curricula, and school reports. Wherever it has been possible, these sources have been utilized to determine how far school practices in any period conformed to the theories of the best educational writers and embodied the innovations of the most progressive textbooks. Incidental to these, information has been derived from town histories, reports of educational commissions, early journals of education, and such other information as may be found in miscellaneous sources, like newspaper advertisements, reminiscences, lives of schoolmasters, and histories of individual institutions.

THE BEGINNINGS OF GRAMMAR, NOT OF THE VERNACULAR INSTRUCTION.

This study has to deal primarily with English grammar in American schools. Main interest therefore centers upon the eighteenth and nineteenth centuries. Indeed, the year 1750, the date of the first important vernacular school in America to center its instruction around English grammar, is about 200 years too late at which to begin the study of the development of this branch of teaching. But the important fact to bear in mind is that this is a study of English grammar, not of the vernacular. Moreover, it is a study of English grammar in America, not in England. Therefore its treatment plunges in medias res and touches upon the vernacular before the eighteenth century and upon grammar in England only as demanded by the course of the subject in America and as directly inherited from England in theories, textbooks, and schoolroom practices.

BEARING ON MODERN PROBLEMS.

It has apparently been the fate of new branches in vernacular instruction, once introduced into American schools, to be carried to excess. Perhaps this is not true of reading and writing; but of the newer branches, spelling, which began correctly as an incidental study, became a craze in the first quarter of the nineteenth century and came to occupy an undue proportion of attention. Elaborate school instruction was supplemented by evening spelling schools and spelling matches. Webster's blue-backed speller enjoyed a sale

unrivaled in our school annals.⁷ Fifty years after the dominance of spelling English grammar rose to its height, occupying, from 1850 to 1875, three to seven years of the secondary schools and, in addition, a prominent place in the high schools. After 1875, with the subsidence of grammar to its correct place as an incidental study, composition gained in strength, and, together with literature carefully prescribed by college entrance requirements, to-day monopolizes one-fourth of the high-school curriculum, while formal language lessons predominate in the elementary school.

The history of spelling and of grammar suggests that 50 years hence educators will be saying that in the two decades from 1900 to 1920 the school had not yet discovered that language habits are not most advantageously acquired in formal composition; that literature is a present reality, with living poets and prose writers, rather than a dusty contribution from masters who lived centuries ago. The historian of the future may smile at the excess of oral composition when carried into elaborate State declamatory contests. Indeed, in the light of the past one argument for increasing the time given to formal classes in the vernacular is at least questionable. If children can not spell, we are urged, give them more classes in spelling; if they are grammatically inaccurate, give them more grammar; if they can not write, give them more classes in composition; if they can not appreciate the pale heroes of King Arthur's court, give them Milton's minor poems and Carlyle's Essay on Burns. The very questionable logic of this argument led to excess in the time devoted to spelling and to grammar, and it has been a powerful factor in advancing composition and literature to their present status.

There can be little doubt that the period 1900 to 1920 is the heyday of formal composition and of the classics in the English curriculum, just as the date 1825 was the heyday of spelling and that of 1860 the heyday of grammar. And still the cry is that English departments are failures and their product exceedingly imperfect, and English teachers are demanding ever larger appropriations. English is more fortunate than its sister studies in being able to have the value of its product weighed every day in the practical life of its graduates. English welcomes criticism of its deficiency. English is experimenting with conversation lessons, with present-day literature; English is begging other departments to cooperate in establishing correct language habits; English is endeavoring to put oral composition on a sensible basis. Here and there a daring reformer is advocating less time for formal classes in English, their place to be taken by more general and uniform guidance in language habits. Here and there

⁷ "It is computed that more than 80,000,000 copies of this spelling book were sold before 1880." Evans Am. Bibl., 6, 263.

school officials are even rejecting for other departments teachers whose English is slovenly, just as they reject candidates whose appearance is careless and uncleanly.

History in the teaching of the mother tongue is being made to-day. Therefore the writer feels that any light which may be thrown upon the history of any one branch of English instruction from its very beginning in America may assist modern reformers in securing a better perspective as they advance to more important innovations. The heart of the newer movements in the vernacular is well expressed by Sir Oliver Lodge: "Language should be learned in a pupil's stride—not by years of painful application." This sentiment, moreover, is the direct opposite of the spirit and aims of instruction in formal grammar in America up to 1850.

Chapter I.

EARLY INSTRUCTION IN THE VERNACULAR PRECEDING ENGLISH GRAMMAR.

The history of the educational changes by which instruction in the English vernacular has been grafted upon the classical instruction of the sixteenth century involves two distinct movements. The first occurred after the Reformation; it was led by Comenius, Brinsley, Hoole, and others; it resulted in the addition of reading, writing, and spelling in the mother tongue to the curriculum of elementary schools and to the lower classes of grammar schools.⁸ The second movement may be said to have begun in 1693 with John Locke and his immediate followers; it resulted in the addition of English grammar, composition, both oral and written, and literature to the curriculum of intermediate schools and colleges.⁹

While it is true that these two movements, corresponding roughly to the seventeenth and eighteenth centuries, respectively, were closely related, they were also quite distinct and involve two different conceptions of education. The seventeenth-century reform demanded the vernacular for two reasons: First, as a necessary preliminary for boys who were to continue their education in the classics; second, as suitable instruction for the masses, not destined for higher schools, but needing to read the Bible in the vernacular, according to the spirit of the Reformation.

The important consideration is that the seventeenth-century reform still regarded education in the classics as of highest worth. On the contrary, the eighteenth-century reform began where the former left off. It found the elementary branches of the vernacular established as the preliminaries of classical instruction. John Locke headed the revolt against the Latin curriculum as the sole content of secondary education. He and his followers insisted that the mother tongue itself is better suited than Latin to serve at once as the end and the vehicle of secondary education. They placed English in the curriculum not as preliminary to but as a substitute for the Latin tongue.¹⁰ It was through this eighteenth-century movement that English gram-

⁸ See Watson, *Beginnings of Mod. Subj.*, 20, for excellent discussion of this earlier movement.

⁹ See Chap. III, p. 55.

¹⁰ Full discussion in Chap. III, p. 55.

mar, composition, and literature entered the curriculum and began the course which has brought them to the dignified place they occupy to-day.

It is obvious that a study which seeks to trace the entrance of English grammar into American pedagogy has to deal primarily with the eighteenth-century reform. In other words, the point of departure in this dissertation may be said to be 1693, the date of John Locke's *Thoughts on Education*. The first movement for the vernacular, with its causes and results, is postulated as having been completed, and the later reform of the eighteenth century begun, by that date.

This thesis shows that English grammar was introduced primarily as the core study of a secondary school curriculum of the English rather than of the Latin type; that the traditions of Latin grammar as the heart of grammar-school instruction pointed at first positively and directly to English grammar as the core of an English program of equal rank with the Latin grammar program. In other words, this dissertation is the story of the process by which the dreary grind of Latin grammar was supplanted, for the great majority of American school children, by the almost equally futile grind of English grammar.

Although we have selected 1693 as the starting point of our discussion, let us now examine briefly the character of the vernacular instruction in England and America from 1620 to the end of the seventeenth century. This is done merely to establish a suitable background for the entrance of English grammar. It is a glance at what vernacular instruction was just before grammar appeared in America.

1. CHARACTER OF VERNACULAR INSTRUCTION IN ENGLAND, 1596-1622.

In 1596 Edmund Coote published in London his famous vernacular textbook for "pettie" schools. The title indicates its nature: "The English School Master, Teaching all his Scholars, of what age soever, the most easy, short, and perfect order of distinct Reading, and true Writing our English-tongue. * * *" ¹¹ Brinsley and Hoole, leading school writers of their day—1600-1650—both speak of Coote's *School Master*, 1596, as a popular text for elementary schools.¹² Before 1656 the book had passed through 26 editions, proof enough of its popularity.¹³

An examination of the contents of this text enables one to see early seventeenth-century vernacular instruction in England. Thirty-two

¹¹ Barnard, *Am. J. of Ed.*, I (1856), 309.

¹² Brinsley, *Ludus Literarius*, 18. Hoole, *New Discovery*, 48.

¹³ Watson, *Grammar Schools*, 177.

pages are given to instruction in the alphabet and spelling; about 18 pages to the catechism, prayers, and psalms; five pages to chronology; two to writing copies; two to arithmetic; the remainder to lists of hard words "sensibly explained." The child using this book first learned his letters, then short syllables, next longer ones, then reading by the word method, with spelling incidental to both alphabet and reading. Writing was insignificant.¹⁴

Brinsley's course in the "pettie" school consisted of studies in this order: The alphabet, the A B C (including spelling) taught by the use of Coote's School Master, the primer "twice thro," The Psalms in Meter, The Testament, and the "Schoole of Vertue," together with "The Schoole of good manners."¹⁵

A complete description of vernacular instruction at the end of the sixteenth century is given by Charles Hoole. In 1659 Hoole published "A New Discovery of the Old Art of Teaching School," having been written 23 years before.¹⁶ Hoole, to be sure, was mainly interested in the Latin school, but he also prescribes a "petty schoole" for children between the ages of 4 and 8. Hoole was a practical school man, head master of the Rotherdam Grammar School in Yorkshire, and principal of a private school in London.¹⁷

Hoole based his discussion of methods upon the following arrangement:

1. Preparatory lessons in vocalization before learning the letters.
2. Learning the alphabet with the hornbook.
3. Proceeding from syllables of two letters, various vowels with each consonant, using dice, pictures, charts. In his primer Hoole gives a picture with the letters. "I have published a New Primar. In the first leafe whereof I have set Roman Capitalls . . . and have joyned therewith the pictures or images of some things whose names begins (Hoole's grammar is imperfect) with that letter, by which a child's memory may be helped, . . . as A for an Ape, B for a Bear, etc."
4. Teaching the child to spell distinctly; pronounce the vowels alone; teaching the force of the consonants; syllables of one consonant before a vowel; teaching the diphthongs; then begin spelling of words (learning six rules of spelling).

¹⁴ Watson, 177. It is worth noting that English grammar made its way into America chiefly through Dilworth's "New Guide to the English Tongue," 1740, which was a reader, speller, and grammar combined. A composite textbook was popular when books were scarce. Coote's composite book was an early prototype of such texts, of which Dilworth was the most widely used in America. (See Ch. II, p. 83.)

¹⁵ Brinsley, 14-18. The title of this book is "The Schools of Vertue and booke of good Nourture for chyl dren and youth to learne theyr dutie by," by Francis Seager (earliest edition 1557; one as late as 1677). Reprinted, Early English Text Society, *The Babees Book*, 332-55.

¹⁶ Reprinted in *Am. J. of Ed.*, XVII (1864), 195, 225, 293; more recently by C. W. Bardeen.

¹⁷ "The Petty Schoole" was printed in Paul's Church Yard in 1659. Bardeen's reprint, 27 (title page).

5. Teaching him to read any English book perfectly.

The ordinary way to teach children to read is, after they have got some knowledge of their letters and a smattering of some syllables and words in the horn-book, to turn them into the A B C or Primar, and therein to make them name the letters, and spell the words, till by often use they can pronounce (at least) the shortest words at first sight.

For these books Hoole substitutes the Lord's Prayer, the Creed, and the Ten Commandments printed in Roman capitals. He would have the child pronounce the words he can at first sight and "What he can not, to spell them, and to go them often over, till he can tell any tittle in them either in or without the book."

Then Hoole adds reading over "Psalms, Thanksgivings, and Prayers . . . till he have them pretty well by heart." Textbooks are "The Psalter, The Psalms in Meeter, The Schoole of good manners, . . . or such like easy books"; then the Bible, beginning with Genesis. Finally have him "take liberty to exercise himself in any English book." When "he can perfectly read in any place of a book that is offered him . . . I adjudge him fit to enter into a Grammar Schoole, but not before. . . . For thus learning to read English perfectly I allow two or three years time, so that at seven or eight years of age a child may begin Latine."¹⁸

What the curriculum of the average charity school of England was about 1700 may be seen in an account of the Charity Schools of Great Britain and Ireland. Orders which were in effect in many schools were as follows:

Pronunciation: The Master Shall make it his chief Business to Instruct the Children . . . in the Church Catechism; which he shall first teach them to pronounce distinctly and plainly.

Spelling: The Master shall teach them the true spelling of Words and Distinction of Syllables, with the Points and Stops, which is necessary to true and good Reading.

Reading: As soon as the Boys can Read completely well, the Master shall

Writing: teach them to Write a fair legible Hand.

There is presented an account of 100 such schools (1710), with 2,480 boys and 1,381 girls, which had been set up during the preceding 14 years. A common stipulation in many gifts for these schools runs "for teaching them to Read, Write, Cast Account, and Work, and for instructing them to the knowledge of the Christian Religion."¹⁹

On the basis of this examination of Coote, Brinsley, and Hoole we are able to see the nature of vernacular instruction in England in the better "petty" schools from 1569 and continuing until the eighteenth

¹⁸ Bardeen, op. cit., 31-53.

Hoole adds a chapter to his "Petty Schoole" in which he points out how children for whom Latin is thought unnecessary may be employed after they have learned English. Ibid., 54.

¹⁹An account of the Charity Schools of Great Britain and Ireland, 9th ed., 1710, 3-15.

century. If Hoole is correct, "the A. B. C. being now (I may say) generally thrown aside, and the ordinary *Primar* not printed,"²⁰ the use of these two famous educational instruments was diminishing, together with the hornbook.²¹

We may sum up the English practice at the time the first American colonies were established by saying that vernacular instruction consisted of elementary reading, spelling, and writing; that it retained an intensely religious purpose, involving ability to read the Bible; that it was regarded as preliminary to the study of Latin. We shall see that these characteristics were transferred bodily to the first elementary schools of America.

2. REASONS FOR EARLY EMPHASIS ON VERNACULAR IN AMERICA.

Two major reasons led the English colonists to stress the mother tongue in elementary instruction. As is customary, our consideration begins with the Puritan colony of Massachusetts, the character of the first settlers, their purpose in coming to America, and their major interests in the new land. Only eight years after the settlement of Massachusetts Bay that Colony established a college in Cambridge. Harvard was founded in 1636.²² This highly significant act was due to the fact that a large proportion of the first settlers were thoroughly acquainted with the higher education and educational institutions of the mother country.²³ By 1650, within New England, there had settled at least 90 men, ministers, the leaders of Massachusetts Bay, most of whom were graduates of Oxford and Cambridge. Three-fourths of these were from Cambridge, the hotbed of revolt against Laud and established religious authority. They had been students there between the years 1600 and 1650, contemporaries of Robinson, Cromwell, and Milton. Of this number were John Cotton, John Ward, John Harvard, John Winthrop, Henry Dunster, and many others, not all clergymen. By 1650 the immigration into New England had reached 20,000 of pure English stock, and it is estimated that there was one person of higher education for every 40 families. The proportion for Massachusetts Bay was even larger than the general average for New England. This unusually large proportion of educated men were leaders of groups of immigrants, some of whom had themselves been landed proprietors in England and had enjoyed at least an elementary education in the grammar schools of the mother country.²⁴

It was among such a people, whose actions were directed by such leaders, that an early movement for education might be expected. The colleges and the grammar schools first established were, of course,

²⁰ Bardeen, *op. cit.*, 50.

²¹ The standard work is Tuer, *History of the Horn Book*.

²² *Rec. Co. Mass. Bay*, I, 183.

²³ F. B. Dexter, *Influences of the English Universities in the Development of New England*, *Proc. Mass. Hist. Soc.*, 1879-1880, 340 et seq.

²⁴ See M. W. Jernegan, *The Beginnings of Pub. Ed. in N. E.*, *Sch. Rev.*, XXIII, 326.

classical. They were in response to the ideal of the leaders that the State was responsible for the education of the most promising youth in order to perpetuate an educated leadership. Colleges were to train leaders, and as the college curriculum was entirely made up of classical studies, classical grammar schools were necessary to prepare boys for college.

But the colonists of Massachusetts were actuated by another ideal which grew out of their intensely religious nature and was the very heart of the Protestant movement the world over. This idea, ardent champions of which were Luther and Erasmus, was that the mass of the people should be able to go directly to the fountain head of all religious authority—the Bible itself.²⁵ To this end the Holy Word was brought out of the Latin into the vernacular and the people taught to read. Not all the people were to be educated in grammar school and college; that was reserved for the few destined to become leaders. But the rank and file of the people themselves must be able at least to read the Bible. In Germany, England, and America this ideal was the primary moving force which led to the introduction of universal instruction in the mother tongue.

We have, then, in the desire for educated leadership and in the desire for universal acquaintance with the Scriptures two impelling forces which actuated Puritan New England in her first educational endeavors.²⁶

Evidence on this point may be found in the first two general laws concerning education passed by the General Court of Massachusetts Bay. The act of 1642 ordered selectmen to take account of children, "especiality of their ability to read & undestand the principles of religion and the capital lawes of the country."²⁷ Even more strongly suggestive is the language of the law of 1647, which made compulsory both elementary and secondary education: "It being one chiefe piet (point) of y^eould deluder, Satan, to keepe men from the knowledge of y^e Scriptures, as in form^r times, by keeping y^m in an unknowne tongue."²⁸ This is the expression of the second ideal—that the Scriptures, in the known tongue, are to be accessible to all. "So in these latt^r times, by pswading from y^e use of tongues, y^t so at last y^e

²⁵ Luther translated the Testament in 1522; the entire Bible in 1534. Monroe, *Cyc. of Ed.*, 4, 94.

²⁶ Probably none of the other causes designated by Watson for the seventeenth-century movement for the vernacular in England were operative in America. Watson assigns, first, the growth of a national spirit after the Armada; second, the fact that England took more pride in her national independence of thought, and especially sought to give all people the ability to read the Scriptures; third, the feeling that, as the French tongue now contained the subject matter which had formerly been confined to the Latin, English might also be so utilized; fourth, the newly acquired literary possession in Spencer, Shakespeare, and Milton; and, finally, the increase of textbooks in English, beginning with the authorized prints of 1545, until "by the second half of the seventeenth century every important department of knowledge had been expounded in an English textbook." Watson, *op. cit.*, 581-5.

²⁷ *Rec. Co. Mass. Bay*, 11, 9.

²⁸ *Ibid.*, 203.

true sence & meaning of y^e originall might be clouded by false glosses of saint seeming deceivers.”²⁹ Here is the expression of the ideal for leadership educated in Latin and Greek. Elementary education in the vernacular and secondary and higher education in the classics were provided for by colony law in Massachusetts Bay in 1647, only 19 years after the original settlement. As we have seen, the ideals and motives were primarily religious. We are safe in saying not only that the American colonists inherited from England the grammar school and the college, but that they endeavored to go beyond the mother country in teaching the vernacular. Vernacular instruction is indissolubly associated with the Reformation, out of which the first New England colonies sprang.

3. CHARACTER OF VERNACULAR INSTRUCTION IN AMERICA, 1620-1720.

Colonial laws of the seventeenth century indicate that vernacular instruction consisted primarily of reading and secondarily of writing. In Massachusetts Bay the law of 1642 prescribed “ability to read & undestand the principles of religion;”³⁰ the law of 1647 “to write and read”;³¹ that of 1683 “to wrighting schooles . . . in towns of five hundred families.”³² Reading and writing were similarly the content of vernacular education in Connecticut,³³ in New Haven,³⁴ in New York,³⁵ in New Hampshire,³⁶ in Pennsylvania,³⁷ in Maryland,³⁸ and in South Carolina.³⁹

That reading and writing were the two branches of the vernacular at first stressed in colonial schools is further borne out by examining the practice of various towns. In 1693, Dorchester, Mass., ordered a sum to be paid to Thomas Waterhouse, who “is bound to teach to read it shalbe left to his liberty in that poynt of teaching to write, only to doe what he can conveniently therein.”⁴⁰ Governor Winthrop, under date of 1645, writes: “Divers free schools were erected in Roxbury . . . and in Boston . . . teach to read and write and cipher. . . . Other towns did the like.”⁴¹ Moreover, after the general colony

²⁹ Ibid. The early colony law of Connecticut, 1650, also indicates as a primary purpose of education, teaching children to read the Scriptures. Col. Rec. Conn., I, 555.

³⁰ Rec. Co. Mass. Bay, II, 9.

³¹ Ibid., 203.

³² Ibid., V, 414.

³³ Col. Rec. Conn., I, 521.

³⁴ New Haven Col. Rec. (1653), 65, 583.

³⁵ Ann. of Albany, IV, 15, 16.

³⁶ Bouton, Prov. Papers of N. H., III (1692-1722), 718.

³⁷ Clews, op. cit., 281 and Pa. Col. Rec., I, 91.

³⁸ Steiner, Hist. of Ed. in Maryland, 19; and Clews, op. cit., 416.

³⁹ Ibid., 457.

⁴⁰ Orcott, Nar. Hist. Good Old Dorchester, 292.

⁴¹ Winthrop, Hist. of N. E., Savage, II, 264.

laws of Massachusetts Bay and Connecticut prescribed reading and writing, in 1647 and 1650, respectively, towns began to comply. For example, in Watertown, 1650, "Norcroffe was Chosen Schoole Master, for the teaching of Children to Reed to write & soe much of Lattin as . . . allso y^e teace such as desire to Cast accompt."⁴² Records indicate that other towns employed teachers to teach reading and writing.⁴³ It appears, therefore, that the English teaching of this period was exceedingly elementary. Reading was common in all schools; writing was considered worthy of more advanced teaching in some towns, but usually accompanied reading, taught by the same master; casting accounts and arithmetic began to appear toward the end of the century and were usually classed with the English branches.

In addition to the public schools so far considered, there were many private schools, in one order of which—the "dame" schools—⁴⁴ primary instruction in the mother tongue was the acknowledged purpose. For example, in Malden, Mass., Rebecca Parker kept such a school for several years.⁴⁵ Salem voted £15 to "Widow Catherine Dealland," in 1712, for teaching school among them.⁴⁶ One other typical example will suffice. In Hartford, Conn.,

there were in those times private schools of a lower grade. At least one such school was kept in Hartford, that of Widow Betts, "Goody Betts, the School Dame," who died in 1647. Her pupils were young children, whom she taught the simple lessons of the hornbook.⁴⁷

In short, Judd, in his history of Hadley, sums up the general practice when he says:

There were many cheap private schools . . . in the seventeenth and eighteenth centuries, kept by "dames" . . . where girls were instructed to read and sew, and in some small boys were taught to read . . . Writing was considered far less important Probably not one woman in a dozen could write her name 150 years ago.⁴⁸

The instruction in these dame schools, which persisted well down into the nineteenth century,⁴⁹ consisted of the simplest elements of the vernacular. The textbooks have been described so often that a mere mention here will suffice. Books chiefly employed were the A B C,⁵⁰ the Horn Book,⁵¹ the New England Primer,⁵² the Bible,⁵³

⁴² Watertown Rec., I, 21.

⁴³ Rec. Town of Dedham, III, 213; *ibid.*, IV, 3; Rec. Town Plymouth, I, 116; Currier, *Hist. Newbury*, 396 (quotes town record); Nash, *Hist. Sketch Weymouth*, 126; Corey, *Hist. Malden*, 603; Felt, *op. cit.*, 439; Bailey, *Hist. Andover*, 519; Bicknell, *Hist. Barrington*, 524.

⁴⁴ See discussion in Updegraff, *Orig. Mov. Sch. in Mass.*, 136-49.

⁴⁵ Corey, *op. cit.*, 439.

⁴⁶ Felt, *op. cit.*, I, 442; see also *ibid.*, 445, 9, 50.

⁴⁷ Love, *Col. Hist. Hartford*, 254.

⁴⁸ Judd, *Hist. of Hadley*, 56.

⁴⁹ They continued in Boston at least until 1819, when free primary schools were established. W. B. Fowle, *Barnard, Ed. Blog.*, 129.

⁵⁰ See Eggleston, *Transit of Civilization*, 211.

⁵¹ Tuer, *History of Horn Book*.

⁵² Ford, *The New England Primer*.

⁵³ Felt, *Annals of Salem*, I, 437.

Catechisms,⁵⁴ and the Psalters.⁵⁵ We find, then, that before the appearance of the higher branches of the mother tongue the colonies had provided instruction generally in reading and writing. At first there was little spelling as such, what there was being incidental to reading. Spelling is the logical outcome of the A B C method of learning to read, proceeding from the individual letters to syllables of two letters, then to easy words, and so forward. Littlefield refers to spelling books printed by Stephen Day, in Cambridge, Mass., as early as 1645,⁵⁶ and asserts that Coote's School Master was extensively used in New England.⁵⁷ Other spellers intervened, but not until 1740 and after, when "Dilworth's New Guide to the English Tongue" was published in London, imported, and reprinted in America in enormous quantities,⁵⁸ could formal exercises in spelling be said to have become universal.

The first book printed in America which attained wide popularity was the New England Primer, which was first published in the decade 1680-1690.⁵⁹ Ford estimates the total sale of this book at 3,000,000 copies between 1690 and 1840. One firm, Franklin & Hall, of Philadelphia, sold 37,000 copies between 1749 and 1766.⁶⁰ But the wide sale of the New England Primer did not begin until after 1690; before that time the colony schools had to depend very largely upon books imported from England. Bibles⁶¹ were the universal reading books in the early American schools, convenient textbooks because they were found in almost every home, logical textbooks because knowledge of religion was legally prescribed. For the very earliest instruction in the dame schools, A B C books, hornbooks, and psalters preceded the Testament and Bible. In short, the procedure described by John Locke—"the ordinary road of the Horn Book, Primer,

⁵⁴ Littlefield, *Sch. and Sch. Books*, 105.

⁵⁵ An excellent description of the Primer, the Horn Book, and the Psalter as used in the schools of Salem before 1791 is found in Felt, *op. cit.*, I, 436-7. Isaac Parker, who was one of Dame Rebecca Parker's pupils in Malden, 1786, said that the only book he had was a Psalter, and that he had only a little reading and spelling. Corey, *op. cit.*, 648.

⁵⁶ Littlefield, *op. cit.*, 118.

⁵⁷ *Ibid.*, 119.

⁵⁸ See Chap. II, p. 34.

⁵⁹ Paul Leicester Ford, the historian of the New England Primer, attributed the first edition to Benjamin Harris, printer, between the years 1687-1690, the exact date unknown. Ford, *op. cit.*, 16. Worthington C. Ford has recently found evidence of an earlier New England Primer printed by John Gaine, London, entered in the Stationers Register, under date Oct. 5, 1683. *The Nation*, Jan. 11, 1917, 46.

⁶⁰ P. L. Ford, *op. cit.*, 19.

⁶¹ "The Bible and Psalter and the New England Primer were the only reading books" (before 1770). Burton, *Hist. of Ed. in N. H.*, 1842, 585. The Bible was used for the senior class, John Thelwell's school, Wilmington, Del., before 1775. Powell, *Hist. of Ed. in Del.*, 42. "Bible and Catechism for more than a century after settlement of Newbury were the only reading books used in school." (1684-1734.) Carrier, *Hist. Newbury*, 408.

Psalter, Testament, and Bible"—was the common practice⁶² in America, as in England. Many towns prescribed for their schools Latin masters and either ushers or English masters, together with writing masters or scribes.⁶³ The town school received pupils after they had learned the first elements in dame schools, and, in the absence of the latter, themselves gave elementary instruction in reading, writing, and casting accounts. Such a school, for example, was set up in Hartford, Conn., in 1755. "This society judge necessary that Exclusive of the Grammar School there be . . . two other schools sett up and supported for an English Education only . . . for Reading, Writing and Arithmetic."⁶⁴

Naturally we should not expect to find grammar and composition as distinct studies in this early period, when instruction in the vernacular had for its primary purpose preparing children for the grammar schools and for its secondary purpose teaching them to read the Scriptures, with ability to write even more subordinated, and spelling largely, if not entirely, incidental. How English grammar was grafted upon these more elementary branches is the main subject of the succeeding chapter. When the Latin-grammar school was proved to be ill suited to the majority of pupils and when the demand increased for a type of secondary education to supplant the Latin, English grammar came naturally to the fore. Instruction in vernacular grammar could be imparted by exactly the same methods used in the teaching of Latin grammar. The passing of Latin grammar is contemporaneous with the rise of vernacular grammar. The older order—reading, writing, spelling, and Latin grammar—now became reading, writing, spelling, English grammar, all in the mother tongue. Such a procedure would bear out Eggleston's unsupported assertion that "by slow degrees it came to pass that the English studies at last drove the sacred Latin from the free school founded at first for it alone."⁶⁵

⁶² Locke, *Thoughts Conc. Education, Quick*, 134. See excellent account of such books used in Connecticut schools. "The early schoolbooks of New England were the same as those of Old England. The same books . . . were used in Hadley and other towns. Such books were sold by John Pyncheon, of Springfield, from 1656 to 1672 and after, and by Joseph Howley, of Northampton, to his scholars, except hornbooks, from 1674 to 1680, and both sold many Catechisms; . . . neither sold spelling books. . . . They were but little used in the seventeenth century. Samuel Porter, of Hadley, who died in 1722, sold Primers, Psalters, Testaments, and Bibles; also Catechisms, Psalm Books, and Spelling books, chiefly Dilworth's, were not common on the Connecticut River until after 1750." Judd, *op. cit.*, 61.

In 1805 H. K. Oliver was placed at 5 years of age in the Boston school of Mr. Hayslop. "By him I was taught my A B C D E F, my ab, abs, and my eb, ebs." Later young Oliver learned elementary reading and spelling in the school of Dame Tleson. *Barnard's Am. J. of Ed.*, XXVI, 210.

⁶³ Usher provided for John Douglas (1710), master of the grammar school in Charleston, to teach reading, writing, and arithmetic. *Clews, op. cit.*, 457.

Thomas Makin (Meakins) appears to have kept a "free school in the town of Philadelphia" (1693). Makin was afterwards the usher or assistant of George Keith, the first teacher of the William Penn Charter School, 1687. *Wickersham, Hist. of Ed. in Pa.*, 41-43.

⁶⁴ *Col. Rec.*, II. Love, *Col. Hist. Hartford*, I, 153.

⁶⁵ Eggleston, *op. cit.*, 236.

Chapter II.

EARLY APPEARANCES OF ENGLISH GRAMMAR IN AMERICA.

In Chapter I has been discussed the background of vernacular teaching in the American colonies, to which was added during the eighteenth century the formal study of English grammar. The present chapter will seek to establish the facts that a few schools attempted English grammar as such before 1750; that between 1750 and 1760, in the middle colonies at least, considerable headway in the subject was made in private schools; that after 1760 private schools of both the northern and southern colonies fell into line; that by 1775 English grammar was taught with some frequency in many private schools throughout the country.

1. SCHOOLS AND SCHOOLMASTERS TEACHING ENGLISH GRAMMAR BEFORE 1775.

In this section is gathered from various sources, especially from newspaper advertisements,⁶⁶ evidence of instruction in grammar before 1775. This chapter demonstrates that Noah Webster's often-quoted affirmation that "English grammar was not generally taught in common schools" before the Revolution⁶⁷ has been misinterpreted. Webster was right in saying that few common schools gave instruction in English grammar before 1775, but the inference usually drawn from his statement that grammar was not taught at all is misleading. The number of private schools which taught the subject increased rapidly after 1750. Webster evidently was acquainted with the school practices of the New England colonies, which are shown in this chapter apparently to have lagged behind the middle colonies, and somewhat behind the southern, in bringing to the fore instruction in all secondary branches of English, especially grammar.

In the New Jersey series the newspapers cited begin with 1704 and end with 1779. Not all schools which were giving instruction in grammar before the Revolution are here indicated. Colonial newspapers

⁶⁶ Much of the data from colonial newspapers on private schools cited in this section was made available through the courtesy of Prof. Marcus W. Jernegan, of the University of Chicago. His extracts have been supplemented from the series of excerpts from colonial newspapers relating to New Jersey, as published in the New Jersey Archives, and from sundry other sources, to which reference is made in the course of the discussion. However, no pretense is made that all of the data extant in such sources has been used.

⁶⁷ Am. J. of Ed., XXVI, 198.

are preserved in fragmentary form at best. Moreover, the data relate almost exclusively to private schools, many of which may not have advertised; they offer little or no bearing upon the curricula of free public schools of the eighteenth century. The writer has seen very little evidence that public schools were offering English grammar before 1775.⁶⁸ In all likelihood they were to some extent, but no proof to that effect has come to the writer's attention. No English grammar was offered in the public schools of Boston before 1775.⁶⁹

In footnotes are presented data from various colonies. Information is distributed as follows: Date of the school advertisement, name of the schoolmaster, extracts (quoted verbatim from the advertisements) indicating instruction in grammar and, finally, the reference to the newspaper in which the advertisement was published. It was customary for a successful schoolmaster, like Hugh Hughes, 1767, and Thomas Byerley, contemporary, both of New York, to advertise in various papers in succeeding years. With a few exceptions a schoolmaster's name appears but once in the lists below. In some cases, like that of David Dove, the same schoolmaster taught in several different schools in successive periods of service.

One caution should be borne in mind. There is no positive evidence that many of the schools advertised actually convened. Frequently a schoolmaster "prepares to open a school if given sufficient encouragement," meaning if he secured enough pupils to make the project pay. Moreover, it is quite likely that, as with some schools to-day, the prospectus of a curriculum for advertising purposes was somewhat more pretentious than the actual school practices warranted.

The schools here cited are, with very few exceptions, located in cities of importance, and schoolmasters in smaller places, in plantation schools, and in villages throughout each colony could not, or did not, advertise. Hence, schools of smaller communities may have been teaching grammar of which there is no record. This may be true, although a number of the schools cited in the list below were in small communities. Effort here is merely to cite available data upon which to base a reasonably sound inference as to when English grammar made its first appearances. Undoubtedly it was a new subject, presented in very few textbooks, as no American texts in grammar were published in the colonies before Samuel Johnson, of New York, in 1765,⁷⁰ and none of the grammars from England were reprinted in America until Dilworth's, in 1747. That few English grammars were imported before 1750 is likewise almost certain.⁷¹ Now the

⁶⁸ Except in free school in Maryland. See Chap. II, p. 30.

⁶⁹ See discussion of Joseph Ward's school, Chap. II, p. 34.

⁷⁰ See Chap. II, p. 35.

⁷¹ See Chap. II, p. 33.

newness of the subject, the abject ignorance of the village schoolmasters, and the general absence of textbooks⁷² make it appear likely that English grammar did not generally make its way into the public schools until some time after it was taught in the more prosperous private schools of the cities. Upon this basis, then, coupled with the fact that private schools capable of undertaking grammar established themselves usually in cities, credence may be placed in the conclusions reached in the following discussion.

It may be pointed out also that scrupulous care has been taken to select from the advertisements of more than 500 schools only those in which it is reasonably certain that a deliberate attempt was made to "teach the English language grammatically." A large number of schools which may have taught grammar were rejected.⁷³

Moreover, if the term "grammar" appears in the advertisement, with no certain indication that it signifies English, the assumption has been made that it means Latin grammar. Where English branches are announced as the core of the curriculum, with no specific mention of grammar, they have also been rejected.

NEW ENGLAND.

The writer has seen only six references to New England schools which give positive evidence of teaching English grammar before 1775.⁷⁴ It is surprising to find such meager evidence of instruction

⁷² See Chap. II, p. 33.

⁷³ A typical rejected case is William Cheatam's school in Burlington, N. J., where, in 1763, he taught "Latin, French, English, Writing and Arithmetic." *Maryland Gazette*, July 11, 1763. If Cheatam had meant reading, writing, and spelling in the English part of his curriculum, he probably would have said so. Large numbers of advertisements use these terms for English branches.

Reliable evidence that the term "English" in some advertisements, at least, included grammatical treatment is found in the fact that Franklin's Academy, in which it is certain that grammatical instruction was given (see Chap. III, p. 44), announces only "Wherein youth shall be taught the Latin, Greek, English, French, and German languages." *Pt. G.*, Dec. 11, 1750.

Furthermore, schools and schoolmasters' advertising as "capable of teaching grammar," "giving instruction in grammar," "giving instruction in the English language," and the like, have been rejected. *Md. G.*, Aug. 20, 1752; *ibid.*, Dec. 13, 1764.

⁷⁴ 1766, John Griffith, Boston, "Continues to teach English Grammar." *Boston Gazette*, Sept. 20, also *Boston Post Boy*, Sept. 22.

1766, Richard Pateshall, Boston, "English with propriety according to the Rules of Grammar." *B. G.*, Sept. 15; *ibid.*, Sept. 28.

1769, Joseph Ward, Boston, "Understanding the English Grammar." *Boston Chronicle*, Apr. 20. "The last two years of my school life (between 1765 and 1770), nobody taught English grammar (in Boston) but Col. Ward, who was self-taught, and set up a school in Boston; our class studied Lowth in college." *Memorandum of an Eminent Clergyman*, C. S. J. (1850), 311.

1771, Theodore Foster, Providence, R. I., "English Grammar by Rule." *Providence Gazette*, June 8.

1772, Joseph Ward, Boston, "English Grammar School is now Open." "Those who incline to learn the English Grammar." *B. G.*, Oct. 25.

1773, Wm. Payne, Boston, "English Grammar." *Ibid.*, Nov. 14.

Felt, writing in 1842 of education in Salem, Mass., gives a list of textbooks whose "use appears to have commenced here and in other towns of Massachusetts . . . about the

in grammar in Boston. There may have been other schools teaching grammar during this period, but the internal evidence of the statements of Pateshall and Ward leads to the belief that few, if any, were doing so.

Three successive advertisements show that Pateshall was transforming his school so as to provide a new curriculum in English. In 1754 he taught "Writing, Arithmetic and the English and Latin Tongues."¹⁵ This is a typical private grammar school of the period, according to the interpretation we have followed, and indicates that no grammar was taught. In 1761 Pateshall gives "Public Notice" of a school "teaching reading and spelling English with propriety, and the Rudiments of the Latin Tongue."¹⁶ This indicates that his school was turning more extensively to English; "with propriety" is a phrase commonly used in association with teaching grammar. And in 1766 Pateshall's school is announced "where he will teach Writing and Arithmetic, the Latin Tongue, Reading and Spelling English with Propriety, according to the Rules of Grammar."¹⁷ Therefore during the 12 years covered by these advertisements (1754-1766) this private school was transformed by laying emphasis upon English. The third advertisement, in 1766, clearly indicates that the school offered instruction in grammar.

Ward's announcements throw light on the absence of grammatical instruction in English. In 1769 he announces an—

English Grammar School . . . where he teaches Reading, Spelling, Writing, Arithmetic, The English Grammar. . . . Those who go to the Free Schools and incline to learn the English Grammar he will teach from 11 to 12 o'clock. . . . The Understanding the English Grammar is so necessary for those who have not a liberal education. . . . Such a school is said by the Literati to be very much wanted in this town."¹⁸

The foregoing is one of the earliest uses of the name "English grammar school," and the rest of Ward's statement indicates that the term is used because of the emphasis on English grammar, the title being derived in an exactly analogous way to the term "Latin grammar school." Here, too, is evidence that the free schools of Boston did not include English grammar in their curricula and evidence, though somewhat less positive, that private schools did not generally teach the subject. Ward evidently does not think that Richard Pateshall

particular years which accompany them. The reference of them as to time and place is more vague than desired. But want of data . . . forbid it to be otherwise. Spelling books, Dillworth's 1750; English grammar, Salmon's, Lily's, 1761. British grammar, printed in Boston 1784, Lowth's, Ash's, Webster's, 1785." *Ann. of Salem*, 385-6.

This is the type of reference so vague as to be of no value for our purposes. The writer has seen no other reference to an English grammar by Salmon. Lily's was not an English grammar. This and many similar references are discarded as worthless.

¹⁵ Boston News Letter, Dec. 26, 1754.

¹⁶ Ibid., May 14, 1761.

¹⁷ B. G., Sept. 15, 1766.

¹⁸ B. Chron., Apr. 20, 1769.

(1766) was conducting a school of which the "Literati" approved. Private-school men appear to have often been skeptical of the pretensions of rival schoolmasters.

The announcement of John Griffith, the first evidence available of the time when grammar was introduced in Boston, is highly suggestive of the conclusion we must reach. He affirms, in 1766, that he "continues to teach English Grammar." How long before that date he had carried out this part of his program is uncertain. However, from the discussion of successive advertisements of Pateshall and Ward, considered above, it is concluded that they began their work in grammar soon after 1766.

The conclusion reached, then, is somewhat qualified. In New England a few private schools began to emphasize English grammar in their curricula about the year 1765, one decade before the Revolution. John Griffith, Richard Pateshall, and Joseph Ward were leaders in this movement among the schoolmen of Boston.

NEW YORK.

According to the evidence available upon the numerous attempts to teach declamation, oratory, and grammar, the middle colonies show a much more marked tendency to stress English than did New England. New York, New Jersey, and Pennsylvania seem to have been at least a decade in advance of their sister colonies to the north. The evidence of schools "teaching English Grammatically" in these three colonies includes 39. In New York at least 12 schools, the first somewhat doubtful, were teaching grammar before 1775.⁷⁹

⁷⁹ 1751, Garrett Noel, New York, "Reading, writing, arithmetic, grammar." New York Gazette revived in the Weekly Post Boy, Sept. 2.

1753, John Lewis, New York, "Speaking, reading, spelling and writing English according to English Grammar." Ibid., June 4.

1761, Elizabeth Wilcocks, New York, "With the Whole English Grammar." New York Mercury, Aug. 31.

1761, W. Rudge, Newtown, "Writing, Arith., Grammar, Bookkeeping." Ibid., June 15.

1763, Wm. Jones, New York, "English Language by Grammatical Rules." Ibid., Apr. 25.

1763, Sam. Giles, New York, "Desire to Learn the English Grammar and write their Mother Tongue." N. Y. M. and W. P. B., Apr. 21.

1766, ———, New York, "The English Grammar Rationally taught." Ibid., June 5.

1771, Thomas Ulrich, New York, "English Language Grammatically." N. Y. G. and W. M., Dec. 31.

1771, Hugh Hughes, New York, "English Language Grammatically." Ibid., Dec. 30.

1773, Thomas Byerley, New York, "Scholars interested in the grammatical institutes." Ibid., Aug. 23.

1774, John Cobb, New York, "English Grammar." N. Y. J. or Gen. Ad., June 1.

1775, John Cobb, Flatbush, "Principles of English Grammar." N. Y. G. and W. M., July 4.

Kemp, speaking of English grammar in the charity schools of the city of New York, says: "Mr. Ball added English grammar to the program . . . when he succeeded Mr. Hildreth. . . . It is the only instance of it to be found save the special instruction in it which Forster introduced for a while." Sup. Sch. in Col. N. Y., by S. P. G., 265. Hildreth retired in 1777. Ibid., 115. Forster was master in West Chester Parish from 1717 to 1745. Ibid., 153. If it is true that the latter was giving special instruction in English grammar before 1745, he deserves to be classed as one of the very earliest in America.

Noel's case is cited as doubtful because it does not specifically indicate instruction in grammar. The remainder of his announcement indicates an elementary program with no mention of Latin; this seems to suggest that the "grammar" of his advertisement means English grammar. The first undoubted case is Lewis's school, opened in 1753 for "speaking, reading, spelling and writing English according to English Grammar."⁸⁰

NEW JERSEY.

In the New Jersey series between 1704 and 1750 there appear to be only six references to schools, all of which are advertisements for teachers. Three of these indicate that the subject matter the master is desired to teach is the elementary curriculum of the ordinary town school, namely, reading, writing, arithmetic, ciphering, spelling, and good behavior. References to 12 schools teaching grammar appear after 1850.⁸¹

Two schools, 1751 and 1753, while they do not specify English grammar, point strongly in that direction. Bartholemew Rowley, of Burlington, "Professes to teach the Latin and English Grammar."⁸² Probably this refers to a Latin grammar, with accidence explained in English, after the order of Lily's or Adam's grammar.⁸³ Nevertheless, the very fact that Latin is so advertised indicates a tendency toward the grammar of the vernacular.

In 1753 a lottery for an "English and Grammar-school" is promoted in Trenton "for raising 225 pieces of eight toward building a house to accommodate an English and grammar-school and paying a master."⁸⁴ To be noted here is the slight distinction between an English curriculum and a grammar curriculum in the same school.

⁸⁰ N. Y. G. Rev. in W. P. B., June 4, 1753.

⁸¹ 1751, Bartholemew Rowley, Burlington, "Latin and English Grammar." Pa. G., Sept. 19; also Sept. 26.

1753, ———, Trenton, "English and Grammar-school." Ibid., Apr. 26.

1762, Cather Robert, Elizabeth Town, "English Tongue Taught as a Language." Pa. J., Apr. 1, also N. Y. M., Jan. 18.

1763, S. Finley, Princeton, "English Language Grammatically." Ibid., Nov. 10.

1764, John Reid, Trenton, "English Grammar, Reading, Grammatically." Pa. G., Sept. 13.

1764, ———, Moores Town, "Wanted a schoolmaster to teach the English language grammatically." Ibid., Aug. 3.

1764, Joseph Perlam, Princetown, "English Language grammatically." Pa. J., May 31.

1769, J. Witherspoon, Princeton, "Remarks on the grammar and spelling of the English Tongue." Ibid., Mar. 2.

1769, Princeton College, Princeton, "Scholars desiring admision should be well acquainted with Reading English with propriety, spelling the English language, and writing it without grammatical errors." N. Y. J. and W. M., May 1.

1771, Grammar School, Queen's College. "Mr. Frederick Frelinghausen . . . teach the English Language grammatically." N. Y. J. or Gen. Ad., Oct. 24.

1771, James Conn, Elizabeth Town, "Teach English Grammar." N. Y. G. or W. P. B., Oct. 21.

1775. Newark Academy, Newark, "English Language." N. Y. G. and W. M., Mar. 27.

⁸² Pa. G., Sept. 19, 1751; N. J. Arc., XIX, 99.

⁸³ See Appendix B.

⁸⁴ Pa. G., Apr. 26, 1753; N. J. Arc., XIX, 245.

The step to an English-grammar school is easy and natural and throws light upon the shifting of emphasis from the Latin grammar to English grammar in the last quarter of the century.

Not until 1762, when Robert Cather, of Elizabeth Town, East New Jersey, opened a boarding school, do we have an undoubted case in point. Cather speaks in no doubtful terms:

As also, Boys to be instructed in the Beauty and Propriety of the English Tongue, which shall be taught as a Language; the best English Authors shall be read & explain'd; the Art Rhetoric or Oratory, shall be taught with Care and Exactness; Specimens of the Boys' Proficiency therein shall be given every Quarter. . . . It's hoped the undertaking will meet with due encouragement especially from such who know the Importance of a Proper English Education.⁸⁶

Significant is the fact that S. Finley, president of the college in Princeton, is second on the list, announcing that in the English school connected with the college "is proposed to be taught the English Language grammatically, and that Boys, when found capable, be exercised in Compositions, as well as in pronouncing Orations publically."⁸⁶ The teacher in this academy was Joseph Periam, a young graduate of the college, who, at the commencement of 1762, "to relax the attention of the audience," delivered "an English Oration on Politeness, which gave universal satisfaction for the justness of the sentiments, the elegance of the composition, and the propriety with which it was delivered."⁸⁷

Here is an eighteenth-century college, whose curriculum was very largely classical, announcing an English school with English grammar as its central study. The academy is "An Appendage" of New Jersey College, according to the announcement. This fact makes it unlikely that the academy was a private venture. We are led to conclude that the president, for popularity in advertising,⁸⁸ stresses English. The Philadelphia Academy, afterward the University of Pennsylvania, a near rival, was doing so very successfully in this decade.⁸⁹

The Moores Town advertisement, in 1764, throws an amusing light upon the relative place of the vernacular and the classics. The advertisement reads: "Wanted, a schoolmaster, to teach the English language grammatically, write a genteel hand, Arithmetic, and the useful branches of Mathematics"; then it adds, "and if he could teach the Latin, it would be more agreeable to some of his Employers. . . ."⁹⁰

⁸⁶ Pa. J., Apr. 1, 1762; N. J. Arc., XXIV, 21; also N. Y. M., Jan. 18, 1762.

This much resembles the plan of Franklin's English Academy, 1750, and is cited in a later chapter as evidence of the supreme influence of Franklin's experiment with the English curriculum. See Chap. III, p. 44.

⁸⁷ Ibid., Nov. 10, 1763, N. J. Arc., XXIV, 266.

⁸⁸ Pa. G., Oct. 21, 1762. Quoted, MacLean, Hist. of Col. of N. J., I, 154.

⁸⁹ In 1762 the profits from the grammar school connected with the college were added to President Finley's salary. This, and the presence of young Periam, may have been the cause of the new emphasis on English. MacLean, op. cit., 355.

⁹⁰ See Chap. III, p. 46.

⁹¹ Pa. G., Aug. 2, 1764.

Evidently a minority of this Moores Town committee still clung to the Latin, but the majority, making courteous allusions to their colleagues, insist upon the primary importance of the mother tongue, with English grammar as the basis.

Differences of opinion in regard to the new subject did not trouble the school committees alone. That the school officers often reflected the conflicting opinions of school constituents is evidenced by resolutions of the Germantown (Pa.) Union (English) School, March 3, 1764. Dove, formerly of Philadelphia Academy, was master.

Whether the Mode of instruction generally should be taught Grammatically, attended with lectures. . . . The Board having deliberated . . . Resolved, That the instructions of the youth in the Languages Grammatically, and with Suitable lectures at the same time . . . will undoubtedly tend to the most effectual Advancement of the Knowledge of the Scholars. . . . But the Board is nevertheless of the opinion, that every parent and guardian should have in his election to direct whether his child or ward shall be taught in the above manner, or in the usual mode taught in common schools. . . . Many parents and guardians may not incline to have their children or wards taught in any other manner than what has been hitherto practiced in this school. The . . . English Master . . . shall be obliged himself to hear each scholar three times a week, who is taught reading, writing and arithmetic, in the said common mode.⁹¹

The suggestion is that Dove's new "English Language Grammatically" methods were not entirely popular. This resolution is also indicative of what "the usual mode in the school" was. The school committee orders that the English master shall "hear" the scholar; that is, hear him recite the lessons which he has memorized from the textbook.

In many of these eighteenth-century communities with their highly emphasized democracy this dual struggle among school patrons may have taken place. In Moores Town part of the public clung tenaciously to the Latin and the old curriculum; in Germantown part of the school patrons fought innovations in methods of teaching. Thus did "the road their fathers trod" diverge from the path of progress. Against just such traditionalism, in practically every colony, did instruction in the mother tongue have to fight its way.⁹²

⁹¹ Travis, Germantown Academy, 24-25.

⁹² An advertisement of an Elizabeth Town school, in 1769, shows that a writing master used what is almost the modern method of teaching composition. To be sure, the emphasis is still on writing and spelling. However, the original compositions of the upper class are to be reviewed and errors pointed out. In many of the advertisements cited in this thesis some form of composition is added to the teaching of grammar.

The teacher is the same Joseph Periam whom we saw above as the first teacher in the English school of Princeton college. He is now resigning to take this school.

"As this gentleman is skilled in penmanship, a particular attention will be paid, if desired by the parents . . . pupils according to their capacities. . . . Some in writing the usual copies; others in transcribing . . . from approved authors, either letters to acquire a taste for the epistolary style or select pieces to be committed to memory, which they will be taught to pronounce with grace and propriety. Those of riper judgments will be required to write their own thoughts in the form of letters, descriptions, &c. These transcripts and letters will be carefully reviewed and errors pointed out in such a manner as will be most likely to make them accurate in writing and spelling." N. Y. G. and W. M., July 24, 1769; N. J. Arc., XXVI, 474. It will be noted that Franklin also insists upon careful criticism of the pupils by the English master. See Chap. III, p. 44.

PENNSYLVANIA.

Pennsylvania appears to stand ahead of all her sister colonies in championing thorough instruction in the mother tongue. The reasons for this, under Franklin's leadership, are discussed elsewhere.⁹³ In 1743, at least 20 years earlier than any record found of English grammar in Massachusetts and 10 years before any in New Jersey, one Charles Fortesque announced:

To be taught by Charles Fortesque, late Free-School Master of Chester, at his home, in the alley commonly called Mr. Taylor; the latin Tongue, English in a grammatical manner, navigation, surveying, mensuration, geography," etc.⁹⁴

This school of Fortesque's, with one other,⁹⁵ are the only undoubted cases the writer has seen of attempts formally to teach English grammar in America before 1750.

Next on the list is Franklin's English Academy, Philadelphia.⁹⁶ For reasons elaborated in the succeeding chapter the evidence seems to show that Franklin's Academy, because of its prominence, may be said to mark the beginning of formal instruction in English grammar in American schools. Due appreciation of the priority of Waterland and Fortesque in obscure schools is here acknowledged.

Of great significance is the fact that at least eight schools in Philadelphia were teaching, or had been teaching, grammar before 1760,⁹⁷ and 13 schools before 1766, when we are positive that Griffith and Pateshall were teaching in Boston. Philadelphia had at least 12

⁹³ See Chap. III, p. 43.

⁹⁴ Pa. G., Dec. 1, 1743.

⁹⁵ William Waterland, Wassamacaw, S. C., 1734, see p. 31.

⁹⁶ Pa. G., Dec. 2, 1750, quoted in Montgomery, Hist. of U. of P., 139.

⁹⁷ 1743, Charles Fortesque, Philadelphia, "English in a Grammatical Manner." Pa. G., Dec. 1.

1750, Franklin Academy, Philadelphia, "English Language." Ibid., Dec. 2.

1751, Gabriel Nesman, Philadelphia, "English by daily practice, after the choicest and correct grammars." Ibid., Jan. 1.

1751, David Dove, Philadelphia, "English Grammar." Ibid., Aug. 29.

1754, John Jones, Philadelphia, "English as a Language." Ibid., Oct. 24.

1755, Robert Coe, Philadelphia, "Teaches reading grammatically." Ibid., Apr. 24.

1758, Messrs. Dove and Riley, Philadelphia, "English Language, according to the most exact Rules of Grammar." Ibid., Jan. 12.

1759, Dove and Williams, Philadelphia, "Grammatical knowledge of their mother tongue as it is laid down in Greenwoods English Grammar." Ibid., Aug. 9.

1761, Joseph Garner, Philadelphia, "English Grammatically, according to the most modern and familiar Method." Ibid., July 3.

1764, Subscriber, Philadelphia, "the Reading, Speaking, etc., will be taught grammatically." Ibid., Sept. 1.

1761, David Dove, Germantown, "English as a Language." Ibid., Nov. 19.

1765, Alexander Power, Philadelphia, "English Grammatically." Ibid., June 13.

1766, John Downey, Philadelphia, "English Tongue grammatically." Ibid., June 5.

1767, Mary M'Allister, Philadelphia, "English Language with proper Accent and Emphasis." Ibid., June 4.

1767, Mr. Dove, Philadelphia, "Own Language according to the exact Rules of grammar." Ibid., Oct. 29.

1769, Henry Moore, Potts Town, "English Language grammatically." Ibid., Sept. 28.

1767, Lazarus Pine, Philadelphia, "English Language Grammatically." Ibid., Jan. 29.

1772, John Heffernan, Philadelphia, "Grammatical English." Ibid., Sept. 14.

schools teaching grammar before the first authentic case we have seen in Massachusetts and 11 before the first case found in New Jersey. In comparison with the South we shall see that Pennsylvania schools, with two exceptions, appear to antedate them in adding grammar. These exceptions are William Waterland's school in Wassamacaw, S. C., and the doubtful instance of William Gough's plantation school in the same colony. These exceptions indicate that there were in the southern colonies, and probably in all, schools teaching grammar which are not here recorded.

MARYLAND.

In Maryland the first record we have seen—the announcement of William Clajon⁹⁸—has considerable interest. Clajon was a Frenchman who had immigrated in 1754 and under the patronage of a prominent clergyman in Annapolis began teaching French, Latin, and English in that year.⁹⁹ He paid little attention to English grammar. At least he did not at first advertise it. But three years later, when he may be supposed to have become fairly well established in his profession, he announces:

The subscriber having by great application acquired a reasonable knowledge of the English Grammar, he proposes to teach the same at the Free School of Annapolis. Those Parents, who can not afford their children spending several years in the Learning of Greek and Latin, may, by this proposal, procure to them the only benefit commonly expected from these languages, THE LEARNING OF THEIR OWN. Besides their daughters can as easily enjoy the same advantage.¹⁰⁰

Can it be that Clajon had read the signs of the times as pointing to an English education and had during his three years' residence in America prepared himself to teach the English grammar?¹ At any rate he voices the argument which, after Franklin's proposals for an English school, seems to have seized firm hold upon an increasing proportion of the constituency of the schools—Latin of no practical benefit; English a suitable substitute.²

⁹⁸ 1757, William Clajon, Annapolis, "Knowledge of English Grammar. . . . The Learning of their Own." Md. G., Apr. 28.

1764, Jacob Giles, Mount Pleasant, "The English Language Grammatically." Ibid., July 19.

1765, Joseph Condon, Cecil County Free School, "English by Good Methods and Grammatically." Pa. G., Mar. 14.

1769, Somerset Academy, Somerset County, "Rudiments of English Grammar." Va. G., Feb. 23.

1772, Daniel Melville, Annapolis, "Teacher of a Practical English Grammar." Md. G., Dec. 17.

⁹⁹ Md. G., Nov. 4, 1754.

¹⁰⁰ Md. G., Apr. 28, 1757.

¹ Col. Joseph Ward, one of the first to teach grammar and geography in Boston, was "self-taught." Memorandum of an eminent clergyman, Am. J. of Ed., 13, 746.

² See Chap. III, p. 56.

VIRGINIA.

To Virginia credit must be given for the first textbook in English grammar written by an American. Hugh Jones, professor of mathematics in William and Mary College, wrote "A Short English Grammar," published in England in 1724.³ It seems reasonable to believe that while Jones was teaching in William and Mary some attention to the subject may have been paid, though direct evidence is lacking. But this book was published, so far as we have been able to discover, 10 years before any record of a school or schoolmaster outlining a program which included grammar. Simple justice therefore awards Jones, of Virginia, the place of honor in point of time.

SOUTH CAROLINA.

To South Carolina belongs the distinction of having the first school of which we have seen any record as teaching English grammatically.⁴ In 1734—

William Waterland of Wassamacaw School . . . gives notice that any Gentleman Planter or others, who want to send their Children to School, may be provided with good conveniency for boarding. . . . Writing and Arithmetick in all its most useful Parts, and the Rudiments of Grammar are taught, but more particularly English, of which great care is taken, and by such methods as few Masters care to take the Trouble of, being taught Grammatically.⁵

Waterland's school antedates Franklin's in Philadelphia by 16 years. Another school, in 1742—that of William Gough—ought to be classed as doubtful.

He is now settled entirely at the Plantation of Mr. James Taylor, and continues to teach the several and most useful Branches of Learning (in the English Tongue) according to the London Method, whereby youth may be qualified for Business by Land or Sea.⁶

³ A full description in Meriwether, Colonial Curriculum, 151-3.

⁴ 1734, William Waterland, Wassamacaw, "English being taught grammatically." South Carolina Gazette, Nov. 16.

1742, William Gough, Plantation School, "Most useful branches of the Mother Tongue." Ibid., Feb. 13.

1755, Beresford County, "Wanted, a Master to teach the English Language." Ibid., Nov. 6.

1766, John Emmet, Charlestown, "With the English Grammar, to explain, parse, and sketch the English Tongue." Ibid., Sept. 28.

1766, Andrew D'Ellicent, Charlestown, "English Language Grammatically." Ibid., May 20.

1767, William Johnson, Charlestown, "Principles of English Grammar." Ibid., June 15.

1769, Alexander Alexander, Charlestown, "Together with the leading English Grammar." Ibid., Sept. 7.

1769, William Watson, Charlestown, "Taught to write grammatically." Ibid., June 29.

1770, James Oliver, Charlestown, "English Grammar." Ibid., Oct. 30.

1770, Elizabeth Duneau, Charlestown, "Grammatically the English Language." Ibid., May 17.

1771, William Walton, Charlestown, "English Language grammatically." Ibid., Oct. 20.

1772, James Thompson, Charlestown, "Also grammatical use of their own." Ibid., Dec. 10.

⁵ S. C. G., Nov. 16, 1734.

⁶ Ibid., Feb. 13, 1742.

One especially clear-cut statement—that of William Johnson, Charlestown, 1767—announces:

As soon as they begin to read and write, he proposes to initiate them into the principles of English Grammar, in a manner much more easy than that which is generally practiced, and without much interfering with the work of the school.¹

The obvious interpretation is that grammar is frequently taught in a difficult manner, which interferes with the work of the school. But the first part of Johnson's statement is evidently not intended to convey that impression. He prefaces it with these remarks:

It is a common, but too well grounded a complaint that a grammatical study of our own language seldom makes any part of the ordinary method of instructing youth in our school.²

Johnson's first statement, as interpreted in the foregoing, would be grossly inconsistent with the plain assertion of his prefatory remarks. In short, Johnson's testimony bears out the conclusion reached in this section, that grammatical instruction in English before 1750 was taught only in an occasional school.

GEORGIA.

We have seen recorded two schools in Georgia as teaching grammar before 1775.³

CONCLUSIONS.

A number of private schools gave instruction in English grammar before the Revolution. The three-score schools which we have named include not more than one-tenth of the advertisements of schools available for examination; about one private school in 10 for the entire 50 years (1725–1775) seems to have been turning in the direction of grammar. However, the showing for the subject is better than at first appears, for the advertisements cover many schools which would not have been found teaching grammar even a half century later, when English grammar had come into its own in the curriculum. Only an occasional private school of the secondary grade taught English grammar in the American colonies between 1750 and 1775.

There is evidence of only two schools—Waterland's in South Carolina in 1734 and Fortesque's in Philadelphia in 1743—which were without question teaching the subject before 1750. No further information is available concerning the masters of these schools. This excludes the possibility that, under the influence of Hugh Jones,

¹ Ibid., June 15, 1767.

² Ibid.

³ 1763, John Portrees, Savannah, "Writing and English Grammar." Ga. G., June 30.

1774, Stephen Biddurph, Savannah, "Latin, English, French, and Celtic Languages grammatically." Ibid., Mar. 2.

who wrote a grammar in 1724, after he had severed his relations with William and Mary, some attention may have been paid to grammatical instruction in Virginia.

The decade 1750–1760 in the middle colonies marks for America the serious beginnings of instruction in English grammar. The northern and southern colonies seem to have commenced one to two decades later. After 1750 the middle colonies, under the leadership of Benjamin Franklin in Pennsylvania, began to emphasize the English curriculum, with grammar as the basic study. It received steadily increasing attention from persons starting private schools. Therefore the year 1750 is taken as the most fitting date to mark the beginning of formal English-grammar teaching in America, especially as it coincides exactly with the establishment of Franklin's English School, itself the progenitor of a long line of schools of the middle colonies which based vernacular instruction upon English grammar.

2. ENGLISH GRAMMARS IN AMERICA BEFORE 1784.¹⁰

The first English grammar by an American of which the writer has learned was written in 1724 by Hugh Jones, professor of mathematics in William and Mary College.¹¹ This book was published in London. So far as is known only one copy is extant, that in the British Museum. No indication concerning its use has come to light.

The earliest instruction in English grammar in the colonies was conducted either without textbooks or with books imported from England. Wickersham, speaking for Pennsylvania, represents a condition which was prevalent in regard to the importations of grammars:

Whether any more than a few straggling copies of the old English grammars . . . ever found their way from England to Pennsylvania is unknown; several of them, however, were reprinted in Philadelphia . . . and may have been used to some extent, but the first works generally taught in the schools were the Philadelphia editions of Webster, Harrison, Murray, and Comly, mainly the last two.¹²

Evidence is available that at least 12 grammatical texts of England were imported or reprinted in America before 1784.¹³ Of these, Thomas Dilworth's "A New Guide to the English Tongue," London, 1740, appears to have been the most widely used. Dilworth's book was primarily a speller, and probably introduced as such; but it contained also a "Brief but Comprehensive English Grammar" and a

¹⁰ 1784 is the date of Noah Webster's Grammar, Part II of his Grammatical Institutes of the English Languages, usually considered the first grammar by an American author.

¹¹ Full description in Meriwether, Colonial Curriculum, 151–3.

¹² Wickersham, Hist. of Ed. in Pa., 202.

¹³ Appendix A, p. 155.

reader. Its popularity was widespread.¹⁴ Another book, published first in England three decades earlier than Dilworth's, was also imported to a limited extent. This was James Greenwood's "An Essay Towards a Practical English Grammar," London, 1711. Barnard gives the date of the edition probably best known in the colonies as 1753.¹⁵ The book of James Harris—"Hermes, or a Philosophical Inquiry Concerning Grammar," London, 1751, which Wickersham says was reprinted in Philadelphia¹⁶ and reached its seventh edition in 1825¹⁷—was influential in shaping grammars used in America. A. Fisher's "Practical New Grammar," London, 1763, reached its twenty-eighth edition in America by 1795.¹⁸ Gould Brown used a "New Edition, Enlarged, Improved, and Corrected," 1800.¹⁹

One of the most popular grammars imported and printed here was "The British Grammar," anonymous, London, 1760. An early student of the history of grammar in America asserts that it was probably the first English grammar reprinted on this side of the Atlantic.²⁰ This is an error. Lowth was reprinted in 1775;²¹ the first reprint of Dilworth's was 1747,²² while "The British Grammar" was first reprinted in Boston, 1784.²³

If Dilworth's "New Guide" was the most extensively used, it was because the book was primarily a speller, grammar, and reader combined. The text, considered strictly as a grammar, of most extensive use and influence in the colonies was Lowth's "A Short Introduction to English Grammar," London, 1758. Harvard used Lowth as early as 1774²⁴ and as late as 1841.²⁵ Meanwhile other colleges introduced it into their curricula.²⁶ Wells says that Lowth was "first published anonymously . . . soon came into general notice, and has probably exerted more influence than any other treatise in forming the character of the numerous grammars that have since been used as school books, in Great Britain and the United States." Lowth's greatest

¹⁴ The first American reprint seems to have been the edition of Franklin, in Philadelphia, 1747. Evans, *Am. Bibl.*, 3, 78. Evans omitted the 1747 edition from his second volume. He lists 16 different American editions between 1747 and 1792. Ten thousand copies printed in one edition seems to have been a popular number. *Ibid.*, 4, 314 and 7, 111.

The Lancaster, Pa., edition of 1778 omitted the grammar until (as the publication said) "peace and commerce shall again smile on us, and when in spite of Britain and a certain one named Beelzebub, we shall have paper and books of every kind in abundance." Wickersham, *op. cit.*, 198.

¹⁵ *Am. J. of Ed.*, XIII, 639.

¹⁶ Wickersham, *op. cit.*, 202.

¹⁷ *C. S. J.*, 3, 209.

¹⁸ Barnard, *op. cit.*, 13, 633.

¹⁹ Brown, *Gram. of Gram.*, XV.

²⁰ Wallis (W. B. Fowle), *C. S. J.*, 12, 20.

²¹ Evans, *op. cit.*, 5, 150.

²² *Ibid.*, 3, 76 footnote.

²³ *Ibid.*, 6, 274.

²⁴ *C. S. J.*, 11 (1849), 257.

²⁵ *Ibid.*, 3 (1841), 230.

²⁶ Discussion in the following section.

significance is that most of his rules have been copied verbatim by Lindley Murray and again from him by many compilers of lesser note.²⁷ Webster says that "Wallis and Lowth are the two ablest writers on English Grammar."²⁸ Lowth enjoyed numerous American reprints.²⁹

One other important book was Ash's "Grammatical Institutes," first published in London, 1763, and enjoying four other editions there before 1795.³⁰ Its subtitle was "An Easy Introduction to Dr. Lowth's English Grammar" and was based on Lowth's seventh London edition.³¹ Ash was reprinted and sold in New York in 1774 by High Gain.³²

In addition to the books named, there were numerous other English publications which contained grammars, not strictly textbooks, circulating in America before 1784. In this list are McTurner's "Spelling Book and English Grammar," Fenning's Dictionary, Buchanan's Dictionary, Johnson's Dictionary, all of which contained brief grammars. In the advertisements of colonial booksellers we see indications that other grammars of which we have found no definite trace made their way from England. Numerous advertisements announce "Spelling Books by the dozen," "English Grammars," etc.³³ This is indicative of the conclusion that must be reached: Before grammars were widely printed in America the circulation of popular books imported was quite common. Reprints began to appear frequently after 1747.

Finally, more interesting, if not so significant, is the fact that several other Americans besides Hugh Jones antedated Noah Webster in publishing English grammars. In 1765 Samuel Johnson, the first president of King's College, published in New York "The First Easy Rudiments of Grammar, applied to the English Tongue. By one who is extremely desirous to promote good literature in America, and especially a right English education. For the use of Schools."³⁴ This volume of 36 pages appears to have been the first grammar prepared by an American and published in America. It was printed by

²⁷ Wells, C. S. J., 3, 230.

²⁸ Ibid.

²⁹ First reprint, 1775, Philadelphia, Evans, op. cit., 5, 150.

³⁰ Brown, Gram. of Gram., XII.

³¹ Evans, op. cit., 5, 5.

³² Ibid.

³³ Pa. G., Jan. 6, 1742; S. C. G., Oct. 3, 1748; B. N. L., Sept. 5, 1750, etc.

³⁴ Evans, op. cit., 4, 18.

Johnson wrote his English grammar for use in the preliminary education of his two grandsons. He prepared also a Hebrew grammar to go side by side with his English grammar, the structure of the two languages bearing in his view a close resemblance. He said: "I am still pursuing the same design of promoting the study of the Hebrew Scriptures . . . and I think of no better project than to get the grammar of it studied with a grammar of our own excellent language as the best introduction to what is called a liberal education. . . . Beardsley, Life and Correspondence of Samuel Johnson, 306-7.

Beardsley affirms that Johnson's book was printed by W. Faden, London, in 1767, and four years afterwards a second edition was published by the same printer, Ibid., 307.

J. Holt, near Exchange, in Broad Street, New York.³⁵ Johnson was followed, in 1773, by Thomas Byerley, also a schoolmaster of New York, who published "A Plain and Easy Introduction to English Grammar."³⁶ Byerley has an elaborate description of the methods used in his school, a discussion of which appears in a later chapter.³⁷

In 1779 Abel Curtis, of Dartmouth College, published "A Compend of English Grammar: Being an Attempt to point out the Fundamental Principles of the English Language."³⁸

We have, then, the undoubted cases of Jones, 1724; Johnson, 1765; Byerley, 1773; and Curtis, 1779, to cite as American writers publishing grammars before Noah Webster in 1784. We conclude that Hugh Jones was the first American author to write a textbook in English grammar; that Samuel Johnson was the first to write a grammar published in America; that the books of these two men, together with those of Byerley and Curtis, precede Webster's book in point of time. The latter was, then, the author of at least the fifth, not the first, English grammar by an American. To be sure, the writer has seen no evidence that any of the earlier books were widely used in the schools or were influential in directing the new tendency in America to stress grammatical instruction. In one sense Webster retains the place usually assigned him as the first American grammarian. He yields to the others only in the matter of chronological priority.

3. EARLY INSTRUCTION IN ENGLISH GRAMMAR IN AMERICAN COLLEGES.

When King's College was founded, President Samuel Johnson, a Yale graduate, made this significant announcement: "It is the further Design of this college, to instruct and perfect the Youth in the Learned Languages, and in the arts of *reasoning* exactly, of *writing* correctly, and *speaking* eloquently."³⁹ This was stated in the first public prospectus of the college work.⁴⁰ To Johnson⁴¹ has been assigned the honor of being the first American author of a textbook in English grammar published on this side of the Atlantic. His book was entitled "An English Grammar. The First Easy Rudiments of Grammar applied to the English Tongue. By one who is extremely desirous to promote good literature in America, and especially a Right English Education. For the use of Schools."⁴² This book was published in 1765, more than a decade after he became president of King's

³⁵ Ibid.

³⁶ Evans, op. cit., 4, 353.

³⁷ See Chap. V, p. 129.

³⁸ Printed by Spooner, Dresden (Dartmouth College), Evans, 6, 10.

³⁹ Pine, Columbia Col. Charters and Acts, 70.

⁴⁰ N. Y. G. or W. P. B., July 3, 1754.

⁴¹ See Chap. II, p. 35.

⁴² Evans, Am. Bibl., 4, 18.

College. Obviously the book was not of college grade. His early authorship is cited here to indicate the genesis of the Columbia plan of education promulgated by his son, William Samuel Johnson, president of Columbia in 1785.

In this plan emphasis was laid upon English that was quite in keeping with the ideal set forth at the founding by the father and with the earlier interests of the son. The plan has several features which, taken all in all, make it an innovation in college curricula. We concern ourselves here only with the striking emphasis on instruction in the vernacular.⁴³

A few years later, 1792, a pamphlet "Present State of Learning in Columbia College" shows that the English part of the 1785 program was thoroughly carried out.⁴⁴ In fine, the King's College and Columbia curricula show a steady growth in popularity of instruction in the mother tongue. This is in startling contrast to the "starving," as Franklin called it, of English in the academy in which the University of Pennsylvania had its beginnings.⁴⁵

The experience of both Pennsylvania and Harvard shows that, as in the case of Columbia, the first impetus in colleges toward instruction in the mother tongue came through the desire for better elocution and oratory. In Harvard, disputations, heretofore carried on in Latin, after the middle of the eighteenth century came to be given in the vernacular. President Quincy, after saying that for nearly a

⁴³ The Plan of Education, 1785:

Freshman Class. English Grammar, together with the art of reading and speaking English with propriety and elegance. Once a week . . . translation out of Latin into English; . . . this to be considered as English rather than a Latin exercise.

Sophomore Class. Once a week deliver to the President an English composition upon a subject to be assigned.

Junior Class. Once a week, to the President, an English or Latin composition, upon a subject to be assigned, which compositions are expected to be longer and more correct as the students advance,

Senior Class. To deliver once a week, an English or Latin Composition to the President upon a subject of their own choosing.

The written exercises of each class are to be subscribed with the author's name, and after having undergone the President's criticism are to be filed and produced at the monthly visitations for the inspection of the Regents and Professors. So many of each of the three senior classes as will bring it to each student's turn in a month are once a week to repeat in the Hall . . . some proper piece of English or Latin, which the President is to direct, and which, at the monthly visitation, may be such of their weekly exercises as the President may think have most merit.

Plan cited in full, Snow, Col. Cur. in U. S., 93-6.

⁴⁴ "The President, William Samuel Johnson, LLD., is Lecturing in Rhetoric and Belles Lettres, and instructs the students in the Grammar and proper pronunciation of the English Language, on the plan of Webster's and Lowth's Grammars, and Sheridan's Rhetorical Grammar. In Rhetoric, on the plan of Holme's and Stirling's Rhetoric . . . a complete course of instruction in . . . the English Language in particular; in the art of writing and speaking it with propriety, elegance and force."

"Each student is obliged, every Saturday, to deliver him (President Johnson) a composition, in which he corrects the errors either in orthography, grammar, style or sentiment, and makes the necessary observations on them when he returns the composition to the writers." Ibid., 98-102.

⁴⁵ Smyth, Life and Writings, B. Franklin, X, 16. See Chap. III, p. 48.

century (1650–1750) the Harvard curriculum had resisted innovations, points out that in 1754 the overseers raised a committee “to project some new method to promote oratory.” The result was a system of disputations in English, apparently a radical innovation.⁴⁶ But it was not until 1766 that a committee of the board proposes there should be a “distinct Tutor in elocution, composition in English, Rhetoric, and other parts of Belles Lettres.”⁴⁷

About the time that this new turn toward vernacular instruction was coming in Harvard (1754–1766) the University of Pennsylvania was being started in the Academy and Charity School of Philadelphia (1750–1756). Chapter III of this study is devoted to an examination of the character of this school and its influence in spreading vernacular education in secondary schools. The point to be anticipated here from that discussion is that good speaking and good writing in English were the primary motives lying back of the English program, with grammar as the central study.⁴⁸

That Princeton was the first college to require grammar as an entrance requirement, in 1819, is the statement of Broome.⁴⁹ Murray, in a study of the first-mentioned texts in the College of New Jersey (Princeton), based upon catalogues of the institution, finds Lowth's Grammar first in 1793, and adds that not until 1840 does grammar appear in the catalogues as an admission requirement.⁵⁰ The statements of Broome and Murray do not tally by 21 years; the difference is entirely consistent with the extreme difficulty of assigning definite dates for the first appearance of any subject. It is not at all certain that statutory provisions indicate the earliest date. As a matter of fact, both Broome and Murray are incorrect in assigning to Princeton the first admission requirements in grammar.⁵¹

If it were true that Princeton was the first, that fact would be consistent with others which can be positively stated. That the year assigned for grammar should be so late is, however, a matter of some wonder. From the year 1763 forward the College of New Jersey was intimately associated with a preparatory school called by President Finley “an Appendage” of the college. Announcement of the academy appeared in 1763.⁵² In 1764 the school was opened.

⁴⁶ Quincy, *Hist. Har. Univ.*, 1840, II, 124–5.

⁴⁷ *Ibid.*, 498, Resolutions in full.

⁴⁸ See Chap. III, p. 43.

⁴⁹ Broome gives the dates at which various new subjects at the beginning of the nineteenth century were definitely placed in the college entrance requirements as follows: Up to 1800 the requirements were Latin, Greek, and arithmetic. Geography was added in 1807; English grammar, 1819; algebra, 1820; geometry, 1844; ancient history, 1847. Broome affirms that all of these were first required by Harvard, except English grammar, in which Princeton took the lead, and adds that the ambiguous term “grammar” appears in the Williams College catalogue for 1795. A *Hist. and Crit. discussion of Col. Adm. Req.*, Columbia Univ. Cont., XI, 30–62.

⁵⁰ Murray, *Hist. of Ed. in N. J.*, 57, Murray's statement is “South English Grammar.”

⁵¹ See discussion (p. 40) of the requirements of the University of North Carolina.

⁵² *Pa. J.*, Nov. 10, 1763; *N. J. Arc.*, XXIV, 266.

The Publick is hereby notified, that as soon as a competent Number of Scholars, offer themselves, an English School will be opened, under the Inspection of the President of the New-Jersey College, as an Appendage to the same: in which is proposed to be taught the English Language grammatically, and that the Boys, when found capable, be exercised in Compositions, as well as in pronouncing Orations publickly.⁵³

In 1769 another extremely suggestive advertisement of Princeton appears. President Witherspoon not only advertises that the college course gives "Remarks in the Grammar and spelling of the English Tongue"⁵⁴ but he also adds, speaking of candidates for admission, "Scholars should also be well acquainted with . . . spelling in English Language and writing it without grammatical errors."⁵⁵ While, of course, this is not a definite entrance requirement, with examination, it is an indication that the president of Princeton as early as 1769 was pointing the way to such a requirement. Parenthetically it may be remarked that Witherspoon states almost exactly the proper test of grammatical accuracy, the test to which colleges did not officially arrive until one hundred years later, when, in 1873, Harvard's new admission requirements were formulated. For all the intervening time the entrance test consisted of examinations in formal English grammar, which, for a large part of that century, meant the slavish repetition of pages and pages of rules.⁵⁶ The point of present interest, however, is that in this statement of President Witherspoon, in 1769, we see in embryo, at least, the college-entrance requirement of 1819; indeed, that of the present-day requirements. Princeton, like Columbia and Pennsylvania, had been in touch with English as a language study for nearly 25 years before the Revolution.

The diary of Solomon Droune, of the class of 1773 in Rhode Island College (Brown), testifies that he began the study of English grammar in 1771: "Commenced Hammond's Algebra and British Grammar in December,"⁵⁷ his sophomore year. The inference is strong that his class was studying "The British Grammar," but, unfortunately, we have discovered no corroborating testimony. The college laws of 1783 show that in the sophomore year were studied Lowth's Vernacular Grammar, Rhetoric, Ward's Oratory, and Sheridan's Lectures on Elocution,⁵⁸ and an extract from a letter of the president the following year advises a Mr. Wood, if he desires to enter the sophomore class, "to study with great attention Lowth's English Grammar,

⁵³ Ibid., May 31, 1764; N. J. Arc., XXIV, 370.

A grammar school "as a nursery for the college" had been established under President Burr, but not until 1764 was "it judged proper that an English school should be also established for the sole intention of teaching young lads to write well, to cipher, and to pronounce and read the English tongue with accuracy and precision." Order of trustees, quoted, McLean, op. cit., 529.

⁵⁴ Pa. J., Mar. 2, 1769.

⁵⁵ N. Y. J. or W. M., May 1, 1769.

⁵⁶ See Chap. V.

⁵⁷ Quoted by Bronson, Hist. Brown Univ., 102.

⁵⁸ Laws in full, Ibid. 508-18.

& Sterling's, or Turner's Rhetoric as preparatory to Ward's Oratory & accustom himself to compose in English."⁵⁹

In the charter of Queen's College (which became Rutgers in 1823), first drafted by Dutch Reformed ministers in 1766 and finally granted in 1770, we find positive indications of the trend of the time toward grammatical instruction in English. It is especially significant as coming from a body of men who might have been supposed to favor a language other than English. The charter provides—

There shall always be, residing at or near the college, at least one professor, or teacher well versed in the English language, elected . . . from time to time, and at all times hereafter grammatically to instruct the students of the said college in the knowledge of the English language; . . . provided also that all records shall be in the English language and no other:⁶⁰

The grammar school of Queen's, in the first announcement in 1771, advertised that "Mr. Frederick Frelinghousen . . . teaches the English Language grammatically."⁶¹

In all the preceding discussion there is one State which has not been mentioned—North Carolina. In 1794 the University of North Carolina was opened with a program of English studies very far in advance of any college in the country before 1800.⁶² In 1794 the charges for tuition were as follows:

For Reading, Writing, Arithmetic, Book-keeping, \$8.00 per annum. For Latin, Greek, French, English Grammar, Geography, History and Belles Lettres, \$12.50 per annum. . . .

Here is an institution starting up in a sparsely settled and largely unlettered frontier district. As the historian says, half of those who presented themselves were unprepared for college classes.⁶³ Therefore after the first year the institution was divided into the preparatory school and the university proper.

In 1795, according to the statutes, the course of study in the preparatory school was as follows:

(a) The English Language, to be taught grammatically on the basis of Webster's and South's Grammar.⁶⁴ (b) Writing in a neat and correct manner. (c) Arithmetic, with the four first rules, with the Rule of Three. (d) Reading and Pronouncing select passages from the Purest English authors. (e) Copying in a fair and correct manner select pages from the purest English authors. (f) The English Language shall be regularly continued, it being considered the primary object, and the other languages but auxiliaries. Any language except English may be omitted at the request of the Parents.

Under the professorships in the university, English was continued. "Rhetoric on the plan of Sheridan, . . . The English Language, Extracts in Prose and Verse. Scott's Collections."

⁵⁹ Ibid., 103.

⁶⁰ Clews, op. cit., 343.

⁶¹ N. Y. J. or G. A., Oct. 24, 1771.

⁶² Battle, History of the Univ. of N. C., Vol. I, 50 et seq.

⁶³ Ibid., 65.

⁶⁴ Means Lowth's Grammar.

Here is a college which in 1795 dares to proclaim that English is "the primary object," that "other languages are auxiliaries," and that "any language, except English, may be omitted." The college did not grant the A. B. degree, however, except for Latin and Greek, and the historian tells us that afterwards the university "degenerated into the purely classical type." But the important point is yet to be noted. In 1795, when the English program for the academy was inaugurated, a statute of admission to the college seemed to prescribe English; it is thus cited by Battle:

The Students who passed approved examinations on the studies of the preparatory school were admitted upon the general establishment of the University. There was also an entrance examination in Latin, but the candidates were not required to translate English into Latin.*

English grammar, on the basis of Lowth and Webster, was the first study of the preparatory school. A university statute prescribing entrance examinations in the preparatory subjects was passed in 1795. This appears to be a clear case of an entrance examination in English grammar 24 years before 1819, the date which Broome assigns to Princeton. An error of a quarter of a century shows how dangerous it is to generalize on data derived only from a few well-known institutions.

One further point as to the relations of colleges to English grammar needs is noted. We have seen that Hugh Jones, professor of mathematics in William and Mary, published the first grammar on record, written in America but printed in London in 1724. That book was called "A Short English Grammar, An Accidence to the English Tongue." The description of the contents of the book⁶⁶ seems to indicate that it was deficient in syntax and was devoted largely to preparation for oral work. This, too, would certainly be in keeping with the early date at which it was published. The entire discussion of this chapter and of the following chapter indicates that grammar, as well as written composition and literature, grew up with and possibly out of declamation, oratory, disputations, and the various branches of oral composition. Hugh Jones's "English Grammar" is in strict accord with this hypothesis.

Students of the history of education know that the colleges of America have usually been compelled to emphasize curricula of a more elementary grade in their early years. It was not true of Harvard, perhaps, because the founders of Harvard were the men who dictated the laws of 1642 and 1647 requiring a fitting school in every town of 100 families. Moreover, these schools existed before the law of 1647. We have just seen Princeton under the necessity of establishing a

* Battle, History of the Univ. of N. C., Vol. I, 96.

⁶⁶ Meriwether, Col. Cur., 151-8.

school of lower grade than the college itself and that the new University of North Carolina felt compelled to do so. In the following chapter we shall see the University of Pennsylvania grow from an academy and maintain that academy as a fitting school until well into the nineteenth century. Western colleges growing up amid frontier conditions in the past 75 years also labored under this necessity.

The fact that between 1775 and 1825 the older colleges of the East felt called upon to give instruction in the freshman or sophomore years in English grammar⁶⁷ carries with it several inferences: First, that there was a growing interest in the mother tongue, which compelled colleges established under the exclusive classical régime to enlarge their curricula, and, further, induced colleges founded in the last quarter of the eighteenth century to incorporate English as a language from the very beginning; second, that, as college students were entering without the ability to speak and write grammatical English, that subject was not adequately taught in the lower schools. In short, the attitude of colleges toward grammar before 1800 shows that there was need for the new subject; that the call for it was positive; that this must have been in order that the subject might be introduced into the older institutions; and that the lower schools were not meeting the need.

⁶⁷ Princeton used Lowth in 1793. Snow, *op. cit.*, 109. Yale used Lowth, 1774-1784, Webster, 1792, and Murray in succession before 1800. *Ibid.*, 79, 91, 128. The College of Rhode Island used the same texts in the same order. *Ibid.*, 109, 111, 113.

Chapter III.

INFLUENCES ADDING GRAMMAR TO THE CURRICULUM.

So customary is it to look to Massachusetts, and New England generally, for pioneer movements in American colonial education that it is refreshing to find other colonies taking lead in giving to the vernacular a prominent place in the curriculum. We have seen that the first American writer of a textbook in grammar was the Virginian, Hugh Jones, who published his book in London in 1724; that Noah Webster was also antedated by Johnson, 1765, and by Byerley, 1773, both of New York, and by Curtis, 1778, of New Hampshire. The first school of authentic record we have found teaching the mother tongue "grammatically" was in Wassamacaw, S. C., taught by William Waterland. Moreover, the middle colonies, headed by Pennsylvania, were apparently two decades in advance of New England in having a respectable number of private schools placing grammar on a secondary-school footing. To New York (King's College and Columbia) belongs credit for the first thorough devotion to the mother tongue before 1800, and to North Carolina for the first entrance examination in the subject.

New England, finally, can not claim the first secondary school using English curricula to exert the widest influence in advancing vernacular instruction throughout the colonies. To Pennsylvania, to the Philadelphia Academy, and to Benjamin Franklin, belong this honor, the greatest of all. The present chapter gives an account of this institution, with special reference to what it taught, the influence it exerted, and the motives which prompted it.

1. FRANKLIN'S ENGLISH SCHOOL, 1750.

The story of this institution begins with the year 1739. The evangelist, George Whitefield, preached in Philadelphia to enormous crowds but was excluded from most of the churches of the city.⁶² Opposition of religious sects met him on every side. The hostility naturally drew to his support inhabitants who were free from narrower religious prejudice, among them Benjamin Franklin. Whitefield's avowed mission—the founding of an orphanage—tinctured his

⁶² He did preach in Christ Church, but was opposed by other churches. Wood, *Hist. of U. of P.* (1834), in *Mem. Hist. So. of Pa.*, III, 178.

fervid discussions and turned the attention of his listeners to the unsatisfactory status of education for the unfortunates of the city.⁶⁹ In 1743, amid the fervor of Whitefield's agitation, Franklin drew up a "scheme" for a new school in Philadelphia.⁷⁰ The scheme was not further promulgated for six years, danger of war with France and Spain and other troubles having intervened.⁷¹ But in 1749 Franklin's scheme became the "Proposals Relating to the Education of Youth in Philadelphia." Interest here centers in the English curriculum proposed by the author and inaugurated by the trustees. Extracts from the proposals, together with the constitutions and the program of the English school, furnish evidence as to what really was the curriculum which dared to lift its head among the Latin-grammar schools of the period.

PROPOSALS.⁷²

The proposals state that the rector should be—

a man of good Understanding, good Morals, diligent and patient, learn'd in the Languages and Sciences, and a correct pure Speaker and Writer of the *English*⁷³ Tongue. . . .

All should be taught to write a *fair Hand*, and swift, as that is useful to All. . . .

The English Language might be taught by Grammar; in which some of our best Writers, as *Tillotson, Addison, Pope, Algernon Sidney, Cato's Letters, &c.* should be Classicks: the Stiles principally to be cultivated, being the clear and concise. Reading should also be taught, and pronouncing, properly, distinctly, emphatically; not with an even Tone, which *under-does*, nor a theatrical, which *over-does* Nature.⁷⁴

To form their Stile they should be put to writing Letters to each other, making Abstracts of what they read; or writing the same Things in their own Words: telling or writing Stories lately read, in their own Expressions. All to be revised and corrected by the Tutor, who should give his Reasons, and explain the Force and Import of Words, &c.

⁶⁹ In April, 1740, Franklin attended a meeting in which Whitefield preached of the orphanage he intended to found. Franklin advised the founding of the institution in Philadelphia, urging that materials and workmen would be lacking in the wilds of Georgia. This was the occasion on which, Franklin tells us, after taking out various smaller sums, "I finally empty'd my pocket wholly into the collector's bowl, gold and all." (Autobiography, Griffin ed., 173.)

To the preaching of Whitefield may be ascribed part of the emphasis in earlier Pennsylvania legislation upon charity schools. This, together with the wide divergence of religious beliefs, caused Pennsylvania to be one of the last States to establish a free system of schools, in 1833.

⁷⁰ 1743 was the year that Charles Fostesque advertised his private school in Philadelphia, teaching "English in a grammatical manner." Pa. G., Dec. 1, 1743.

⁷¹ Autobiography, op. cit., 178-80.

⁷² Proposals given in Smyth, Life and Writ. of Benjamin Franklin, II, 386 et seq.

⁷³ All words italicized are so written in the proposals as printed in Smyth.

⁷⁴ This savors so strongly of Hamlet's speech to the players that we are surprised not to find Shapspere in the list of "Classicks."

To form their Pronunciation, they may be put on Declamations, repeating Speeches, delivering Orations &c.; the Tutor assisting at the Rehearsals, teaching, advising, correcting their Accent, &c."⁷⁵

THE CONSTITUTIONS.

These were drawn up by a committee of two, consisting of Tench Francis, attorney general, and Franklin. The constitutions stipulate for instruction "in the dead and living Languages, particularly their Mother Tongue, and all useful Branches of liberal Arts and Science"⁷⁶ and provide:

An ACADEMY for teaching the *Latin* and *Greek* Languages, the *English Tongue* grammatically, and as a Language, the most useful living foreign Languages, *French*, *German* and *Spanish*: As matters of Erudition naturally flowing from the Languages . . . (The subjects named in the Proposals.)

The *English Master* shall be obliged, without the Assistance of any Tutor, to teach Forty Scholars the *English Tongue* grammatically, and as a Language."⁷⁷

Concerning this plan, remarkable for its emphasis upon the English, Franklin states that his desires "went no further than to procure a good English education."⁷⁸ But his friends insisted upon a classical school. In both the documents just cited the sections dealing with the classics are distinctly subordinated and have the appearance of an afterthought, inserted after the original draft to appease Franklin's coworkers. For himself, the founder was resolved "to nourish the English school by every means in my power."⁷⁹

PROGRAM OF THE ENGLISH SCHOOL.

The Academy and Charity School, with Franklin as the first president of the trustees, was established in 1750,⁸⁰ with the following vernacular program in the English school:

First Class:

English Grammar, rules.

Orthography.

Short Pieces, such as Craxall's Fables.

⁷⁵ To this vernacular instruction are added geography, chronology, ancient customs, morality, history, natural history, history of commerce, mathematics. Also, "All intended for Divinity should be taught the *Latin* and *Greek*; for Physick, the *Latin*, *Greek* and *French*; for Law, the *Latin* and *French*; Merchants, the *French*, *German* and *Spanish*; and though all should not be compell'd to learn *Latin*, *Greek* or the modern foreign Languages; yet none that have an ardent Desire to learn them should be refused; their *English*, *Arithmetick*, and other studies absolutely necessary being at the same time not neglected." Smyth, op. cit., 394.

⁷⁶ Montgomery, Hist. of U. of P., 46.

⁷⁷ Ibid., 47, 48.

⁷⁸ Sparks, Works of Benjamin Franklin, II, 133.

⁷⁹ Ibid., 134.

⁸⁰ Franklin, writing from memory, in 1789, gives the date as 1749, but the date of conveyance of "The New Building" was Feb. 1, 1750. Advertisement of the Academy in Pa. G., Dec. 11, 1750.

Second Class:

Expressive Reading.

Grammar, parts of speech and sentence structure.

The Spectator.

Third Class:

Speaking.

Elements of Rhetoric, Grammatical errors corrected.

Fourth Class:

Composition, Letter writing, little stories, accounts of reading.

Letters, Temple and Pope.

Speaking and Oral Reading.

Fifth Class:

Composition, Essays in Prose and Verse.

Oral Reading and Speaking.

Sixth Class:

English Authors, Tillotson, Milton, Locke, Addison, Pope, Swift, Spectator and Guardian.

Some classes always to be with the writing master and with the Arithmetick master, while the rest are in the English school.⁸¹**THE CAREER OF THE ENGLISH PROGRAM.**

Study of the proposals, the constitutions, and the program indicates a secondary school, with the vernacular as its central study, as pretentious as any of the Latin schools of the period.⁸² The phrases "English Tongue grammatically" and "as a Language," many times repeated, are eloquent with that purpose. Franklin was no advocate of the classics as the backbone of public instruction. He affirmed "the still prevailing custom of . . . teaching the Latin and Greek languages . . . I consider . . . in no other light than as the *chapeau bras* of modern literature."⁸³ Indeed, the English program contains almost every element of the best modern secondary-school practice in the vernacular: Grammar; composition, both oral and written; declamation; and literature in the form of the classics of the mother tongue. Other studies are grouped around the English. It seems safe to believe that never before in America, and not for quite half a century later, was any such complete English program projected. It was almost 100 years in advance of its time. Like the leaders of most reforms, Franklin as champion of the mother tongue in secondary education seems to stand alone. The institution he founded was solitary. He was as distinctly a pioneer in education as he was in science.

At first the English school prospered. In the opening year the English and the Latin schools together numbered more than 100

⁸¹ The English program is compiled from Franklin's Works, Sparks, op. cit., II, 125-32.

⁸² It may be safer to say that the English school was intended to be on an equal footing with the Latin. In reality, it never was. In the very beginning the Latin master received a salary of £200, the English master £100. The former had more assistance than the latter. The time of the English master was often employed in the Latin school. Smyth, op. cit., X, 12.

⁸³ Smyth, op. cit., II, 159.

pupils.⁸⁴ In 1752 there were above 90 scholars in the English school alone, according to a minute of the trustees.⁸⁵ The first English master was David James Dove, who had taught grammar in Chichester, England, for 16 years and who was in Franklin's estimation "a clean, pure Speaker and Writer of English."⁸⁶ Commenting on the early success of the English program, Franklin says:

He (Mr. Dove) had a good Voice, read perfectly well, with proper Accent and just Pronunciation, and his Method of communicating Habits of the same kind to his Pupils was this. When he gave a Lesson to one of them, he always first read it to him aloud, with all the different Modulations of the Voice that the Subject and the Sense required. These the Scholars, in studying and repeating the Lesson, naturally endeavour'd to imitate;⁸⁷ and it was really surprizing to see how soon they caught his Manner. . . . In a few Weeks after opening his School; the Trustees were invited to hear the Scholars read and recite. . . . The Performances were surprizingly good . . . and the English School thereby acquired such Reputation, that the Number of Mr. Dove's pupils soon mounted to upwards of Ninety, which Number did not diminish as long as he continued Master, viz., upwards of two years.⁸⁸

Unfortunately the high-water mark of the English school's prosperity was reached only two years after its founding. In 1753 Ebenezer Kinnersley was elected successor to Dove, who devoted himself to a private school in Philadelphia which he had begun while still active in the Academy.⁸⁹ Kinnersley, who had collaborated with Franklin in experimenting with electricity,⁹⁰ was evidently more proficient in science than in teaching English, for under him the English school began a rapid decline. In the words of Franklin, "the Trustees provided another Master . . . not possessing the Talents of an English School Master in the same Perfection with Mr. Dove," whereupon "the school diminished daily and soon was found to have about forty scholars left."⁹¹ The Performances . . . in Reading and Speaking

⁸⁴ Quoted from sermon on education by Rev. Richard Peters, 1750, preached at the opening of the Academy, Montgomery, op. cit., 141.

⁸⁵ "There being above ninety Scholars in the English School, and Mr. Dove having declared he found it impossible duly to instruct so great a number without another assistant." . . . Quoted from the minutes, Dec. 10, 1751, *ibid.*, 144.

⁸⁶ Letter to Samuel Johnson, Dec. 4, 1751. *Ibid.*, 513.

It is significant that Franklin endeavored by every means in his power to secure Samuel Johnson to become the English master. *Ibid.*, 508.

⁸⁷ This is to-day considered extremely bad practice in teaching oral English. "Imitate me," "this is the way to speak the passage," is indeed the quickest way to secure results and doubtless enabled Dove to give public exhibitions within a few weeks after beginning his work. But direct imitation is bad pedagogy.

⁸⁸ Smyth, op. cit., X, 14, 15.

⁸⁹ Pa. G., Aug. 29, 1751.

⁹⁰ Kinnersley is said by Provost Smith to have been "the chief inventor of the electrical apparatus, as well as the author of a considerable part of those discoveries in electricity published by Mr. Franklin, to whom he communicated them." *Amer. Mag.*, Oct., 1758; cited, Wood, *Mem. Hist. Soc. Pa.*, III, 191. Kinnersley published "Experiments in Electricity," 1764, in Philadelphia. *Cat. of Public. Prior to 1775*, in *Trans. of Am. Antiq. Soc.*, II, 570. Evans, op. cit., 3, 390.

⁹¹ The trustees' minutes, Mar. 5, 1757, give the number of students: Philosophy school, 12; Latin, 60; Mathematical, 22; English, 31. Montgomery, op. cit., 282-4.

. . . discontinued and the English School has never since recovered its original Reputation." ⁹²

The retrogression of the English school and the prosperity of the Latin school receives Franklin's bitter condemnation. He himself was absent from Philadelphia much of the time for nearly 30 years, and, as he says, "in the course of 14 years several of the original Trustees, who had been disposed to favour the English School, deceased, and others not so favorable were chosen to supply their places." ⁹³ The whole story of the process by which, to use his words, English "was starved out of the Scheme of Education" is set forth by him in "Observations Relative to the Intentions of the Original Founders of the Academy in Philadelphia," published near the end of his life, in the year 1789. ⁹⁴

Almost pathetically he bemoans the failure of the English school:

I am the only one of the original Trustees now living, and I am just stepping into the grave myself. . . . I seem here to be surrounded by the Ghosts of my dear departed Friends, beckoning and urging me to use the only Tongue now left us, in demanding That Justice to our Grandchildren that our Children has [Franklin's defective grammar] been denied."

He cites numerous instances of prejudice on the part of the "Latinists" to kill the English curriculum, running it down until in 1763 "Mr. Kinnersley's time was entirely taken up in teaching little boys the elements of the English Language (that is, it was dwindled into a School similar to those kept by old Women, who teach Children Letters)." ⁹⁵ In another connection Franklin asserts:

The Latinists were combin'd to deny the English School as useless. It was without Example, they said, as indeed they still say (1789), that a School for teaching the Vulgar Tongue, and the Sciences in that Tongue, was ever formed with a College, and that the Latin Masters were fully competent to teach English." . . . Thus by our injudiciously starving the English Part out of our Scheme of Education, we only saved £50 a year. . . . We lost Fifty Scholars which would have been £200 a year, and defeated, besides, one great End of the Institution."

In spite of "Neglect, Slights, Discouragements, and Injustice" (Franklin's words) ⁹⁶ the English program never entirely died. On July 23, 1769, a resolution passed the board that "after the 17th of

⁹² Smyth, op. cit., X, 15.

⁹³ Ibid., 16.

⁹⁴ Ibid., 9-31.

⁹⁵ Smyth, op. cit., X, 29.

⁹⁶ "The State of the English School was taken into consideration and it was observed that Mr. Kinnersley's Time was entirely taken up with Teaching little Boys the Elements of the English Language." Min. trustees, Feb. 8, 1763. Montgomery, op. cit., 247.

⁹⁷ Smyth, op. cit., X, 16, 19.

⁹⁸ Franklin appears to overstate the opposition. About the only part of the English program actually starved out was the public exhibitions, of which Mr. Dove had made so popular a showing. It is interesting to note that the branch which hung on most tenaciously was English grammar.

⁹⁹ Smyth, op. cit., 27.

October next, Mr. Kinnersley's present Salary do cease, and that from that time the said School . . . shall be on the following Footing, viz . . . " (the fees of the pupils to go directly to the English master, who is guaranteed no salary.¹ But on August 1, 1769, this action was reconsidered, and on July 21, 1771, "the Provost was desired to advertise for a Master able to teach English Grammatically, which seems was all the English Master was now required to teach, the other Branches originally promised being dropt entirely."² So the hard struggle for English went on. Franklin's protest of 1789 did very little good, and in 1810 Dr. John Andrews, provost of the University of Pennsylvania, affirmed that the principal master of English was not called professor, but master; that this work was considered below college grade and subordinate to it. The provost thought that on the death of the then incumbent at the head of the English school it would be abolished altogether.³

In the preceding chapter has been described the course of the English program in King's College and Columbia, under the leadership of Samuel Johnson and of William Samuel Johnson. In strange contrast to the "starving" process which well-nigh killed English instruction in the College and Academy of Philadelphia we find the admirable courses offered in 1792 by the president of the New York institution. The writer feels that the main cause of this startling contrast was due to the influence of Provost Smith, a Latinist, in Pennsylvania, as contrasted with the influence of the Johnsons, moderns, in King's College. But an even more important cause may have been the difference in the internal organization of the two institutions. In Columbia the college curriculum was organized by departments on an equal footing. In Pennsylvania there was a philosophical, an English classical, and a mathematical school, each with its almost distinct program, attempting to grow up side by side. The Columbia organization seems to give each department a better opportunity to demonstrate its worth, being essentially a college, rather than a university, organization. Obviously, English had a better chance to raise itself to independent dignity in Columbia. It would be interesting to speculate as to the course in the vernacular in Pennsylvania had Franklin been able to continue his personal supervision.

2. THE INFLUENCE OF THE PHILADELPHIA ENGLISH SCHOOL.

Such, then, was the precarious and inglorious career of English in Franklin's school, a career which belied the purpose of the founder and was entirely inconsistent with the success of the first few years. To

¹ Ibid., 23.

² Ibid., 27.

³ Battle, Hist. Univ. N. Car., I, 50.

affirm that this institution, prematurely attempting to raise vernacular instruction to the dignity of the Latin, was an influential leader of that movement may seem foolhardy.

At the outset we face the fact that the Philadelphia Academy stands, in point of time, at the head of a list of private schools which, between 1750 and 1765 in Pennsylvania and adjoining colonies, proposed to teach the English language. This fact, taken alone, may have been merely a coincidence. Indeed, from the viewpoint of chronological priority, Fortesque's school in Philadelphia (1743) itself precedes Franklin's. Only in connection with facts cited below is the Philadelphia Academy to be accorded the position of leadership.

Next may be cited the striking fact that the distinctive phrases describing the central purpose of the new venture—"English Tongue grammatically" and "English as a language"—many times repeated in the published announcements and documents of the Franklin school, were used verbatim, or nearly so, by many schools immediately succeeding it in the colonies. This also, considered alone, may not be significant of leadership. It may be said with justice that in 1743 Fortesque, in Benjamin Franklin's own paper, used the equivalent phrase—"English in a grammatical manner"⁴—and that Waterland in South Carolina, in 1734, used almost the equivalent phrase—"English being taught grammatically."⁵ There is no attempt to ascribe to Franklin the authorship of these phrases or of the ideas back of them;⁶ but both schools were obscure and private ventures, without the direct advocacy of a powerful publication like Franklin's Philadelphia Gazette. Moreover, the auspices of the Franklin school, warmly supported as it was by such men as Attorney General Francis and various colony officials, with a board of 24 trustees of leading men of the city, were likely to secure all publicity possible in 1750-1760.

The place to look first for the academy's direct influence on other schools is in Philadelphia, its immediate environs, and in towns of close proximity. Within 10 years several other schools in Philadelphia were teaching English grammatically.⁷ Three of these were

⁴ Pa. G., Dec. 1, 1743.

Charles Hoole, 1680, may have been the inventor of the phrase. He says: "He that would be further instructed how by teaching English more Grammatically, to prepare his Scholars for Latine, let him consult Mr. Poole's English Accidents, and Mr. Wharton's English Grammar; as the best books that I know at present." Bardeen's reprint, 80.

⁵ S. Car. G., Nov. 16, 1734.

⁶ The comment might also be made that the phrases cited are the natural expressions of any schoolman desiring to emphasize English grammar in his curriculum. This comment has a certain validity; but "English tongue grammatically" and "English as a language" are truly distinctive phrases. The New England schoolmasters employed much more prosaic expressions, such as "according to the Rules of Grammar," "understanding the English Grammar," "learn the English Grammar," and the like. See Chap. II.

⁷ In 1759 the number of dwelling houses in Philadelphia was 4,474, indicating a population of between 20,000 and 30,000. R. Proud, Hist. Pa. in N. A., 1770, 279.

established by David James Dove, the first English master of the academy. The first was a girl's school, in 1751, in which English grammar was taught. For devotion to this school and neglect of his duties in the academy Dove was dismissed in 1753.⁸ The second was in 1758, when Dove and Riley professed to teach "English Language according to the most exact rules of grammar."⁹ The third may have been a continuation of the second, when in 1759 Dove and Williams announced "Grammatical Knowledge of their (the pupils') mother tongue, as is laid down in Greenwood's Grammar."¹⁰ Two years later Dove became master in Germantown Academy, where he taught "English as a Language."¹¹ Dove had taught English grammar 16 years in England; it might therefore be fairer to attribute the credit for the teaching of English to direct influence from the mother country. There can be little doubt that Dove in these schools was endeavoring to make capital of the popularity he had enjoyed at the academy.

In 1754 another Philadelphia school was projected by one John Jones, "late assistant to Mr. Dove in the Academy."

[He] has opened his new School-House where . . . the English Tongue will be taught . . . to those, whose Parents request it, as a Language, and delivery in the method pursued by that worthy Professor, Mr. Dove when in the Academy, by which his Scholars made such a wonderful Proficiency, and he gained so great a favor deservedly.¹²

Referring to schools like Jones's and Dove's, we have also Franklin's own testimony that the very failure of his plans in the academy spread the instruction of English as a language. He says:

Parents, indeed, despairing of any reformation, withdrew their children, and placed them in private schools, of which several now appeared in the city, professing to teach what had been promised to be taught in the Academy; and they have since flourished and increased by the scholars the Academy might have had, if it had performed its engagements.¹³

Evidence is not lacking that the neighboring colonies were aware of the success of Franklin's school. For example, in 1754, while the English school was still flourishing, an interesting communication appeared in the Maryland Gazette, written by one who signed himself "Philo Merilandicus," to this effect: "On inquiry it has been found that there are (at least) 100 Marylanders in the academy in Philadelphia. . . ." ¹⁴ The writer laments the loss to Maryland of £5,000 sterling a year. He says also: "Vast sums are every year transmitted to France, etc., for the Education of Young Gentlemen. . . ." He

⁸ Pa. G., Aug. 29, 1751.

⁹ Ibid., Jan. 12, 1758.

¹⁰ Ibid., Aug. 9, 1759.

¹¹ Ibid., Nov. 19, 1761.

¹² Pa. G., Oct. 24, 1754.

¹³ Sparks, Franklin's Works, II, 149.

¹⁴ In 1755 the academy had 300 students. Wickersham, Hist. of Ed. in Pa., 62.

expresses a wish to establish a college on the East Shore, and conceives ways and means for keeping within Maryland the money advanced as aforesaid for the use of Pennsylvania.¹⁵ Here is positive evidence that the academy in Philadelphia, which had the distinction of an English program, was attracting attention.

Suggestion to the same effect is found in the will of one James Van Horn, of Dover, East New Jersey, in 1761. He gives all his estate to his sons John and James, "James to be given the best education the Province of Pennsylvania affords, either at the Academy, or Mr. Dove's English School."¹⁶

If the Philadelphia College and Academy was attracting numerous students from other colonies,¹⁷ there may be found in this fact a motive for the action taken in 1763 by the College of New Jersey, a near rival. President S. Finley in that year announced the opening of an English school as an appendage of the college, with an English program almost identical with the academy's.¹⁸

The College of New Jersey, which thus seems to have followed the lead of the Philadelphia Academy in establishing an English school, was itself influential in spreading grammatical instruction in the mother tongue. It, too, was a cosmopolitan institution, drawing students from the South, from Maryland and Virginia especially.

The influence of Princeton men who became teachers may be illustrated by the experience of Philip Fithian (Princeton, 1770-1772), who became tutor in the family (plantation school) of the famous Col. Carter, of Westmoreland County, Va. In his *Journal and Letters* we find four entries relating to instruction in grammar. "The Second Son is reading English Grammar;" "Mr. Carter put into my hands for the use of the School *The British Grammar*."¹⁹ Fithian evidently felt the need of renewing this subject, for we find this entry a few days later in his journal: "I read *Pictete*, *The Spectator*, *Lambert*, *History of England*, *English Grammar*, *Arithmetic* and *Magazines* by turns."²⁰ The final entry perhaps indicates why Fithian was so industrious in teaching Carter's children grammar: "Mr. Carter is a remarkable man in English Grammar."²¹

¹⁵ Letter to Jonas Greene, Md. G., Mar. 21, 1754. Reprinted, Steiner, *Hist. of Ed. in Md.*, 29.

¹⁶ N. Y. M., Mar. 9, 1761; N. J. Arc., XX, 541.

¹⁷ George B. Wood, writing in 1834, attests to the celebrity of the academy. "From this period, 1757, the institution rose rapidly in importance. The extent and liberality of its plan, conjoined with the excellence of its management, secured it the patronage of the neighboring population; and it soon acquired a celebrity which attracted numerous students from distant colonies. From Maryland, Virginia, and the Carolinas it received much support . . . many planters preferred it, for the education of their children, to the schools of England." Wood, *Hist. of Univ. of Pa.*, Pa. Hist. Soc., III, 185.

¹⁸ Pa. J., Nov. 10, 1763; N. J. Arc., XXIV, 266. See Chap. II, p. 27.

¹⁹ Fithian, *Jour. and Let.*, 55, 56.

²⁰ *Ibid.*, 66.

²¹ *Ibid.*, 97.

Robert Cather's School of Elizabeth Town, East New Jersey, in 1762, was modeled on exactly the same English plan as the Philadelphia Academy. He opened a boarding school with a varied curriculum:-

as also, Boys to be instructed in the Beauty and Propriety of the English Tongue, which shall be taught as a Language; the best English Authors shall be read and explained; the Art of Rhetoric, or Oratory, shall be taught with Care and Exactness, Specimens of the Boys' Proficiency therein shall be given every Quarter.²²

This is the exact Philadelphia scheme.

In 1767 a school called the Somerset Academy was founded in Somerset County, Md., whose curriculum also bears a striking resemblance to the Franklin institution. The following reference is found in a letter written by a "Gentleman on his Travels" (Wm. Rind), who had visited the Philadelphia Academy in 1769:

Erected about two years ago, . . . in the county of Somerset, Maryland, . . . a house sixty-two feet in length and twenty feet in breadth; . . . employs two Masters of Liberal Education [who teach] . . . the rudiments of English Grammar, . . . Spelling, . . . writing, . . . Latin and Greek, . . . and various branches of the Arts and Sciences. . . . Great pains are taken to cultivate the Art of Speaking, which is necessary in order to shine in the Senate, at the bar, and in the pulpit.²³

The last sentence of the foregoing quotation, with its stress upon speaking, is highly suggestive of the Franklin curriculum. That seems to have been the most popular part of Dove's work, Franklin especially commending the excellence of the public programs given by Dove's pupils.

Similar stress is placed upon speaking in several notices of schools included in this section. It may not be out of place to note again that the original "scheme" was drawn up in Philadelphia in 1743, while the city was still under the spell of Whitefield's eloquence. Franklin, himself a modest speaker, may have had in mind the power of Whitefield when he prescribed in his first paragraph that the rector of his school must be a "correct pure Speaker and Writer of the English Tongue," and directed "making Declamations, repeating Speeches and delivering Orations." Indeed, in regard to grammar, his scheme says merely: "The English Language might be taught by Grammar." Perhaps at that time he was not convinced that English could be taught "as a language"; he certainly was so convinced before the proposals and the constitutions appeared in 1749.

The direct influence of the academy spread to a marked degree through the efforts of students who became teachers in other colonies. This is indicated by the evidence of Philo Merilandicus cited above.

²² Pa. J., Apr. 1, 1762; N. J. Arc., XXIV, 21.

²³ Va. G., Feb. 23, 1769.

Influence spread in this way certainly in the case of Andrew D'Ellicent and Alexander Alexander, who in 1766 announced a school in Charleston, S. C., as follows:

Andrew D'Ellicent and Alexander Alexander, late from the College of Philadelphia, beg leave to inform the Publick that they intend to open a School . . . where will be taught the English, French, Latin and Greek Languages grammatically, likewise writing, etc. . . . Young ladies may be instructed in the English Grammar as to be enabled to speak and write their native tongue with . . . Propriety. Boys who have a taste and talents for Oratory may be taught rhetoric, and to pronounce Orations with due action and diction.²⁴

In 1757 a list of all the pupils enrolled in the Philadelphia Academy the preceding year includes the name of one Lindley Murray in the English school.²⁵ Wood, a University of Pennsylvania professor, in his history of that institution, written in 1834, asserts that he has no doubt that this is the Murray who wrote the famous Murray grammars.²⁶ Murray, who wrote in England, we know to have been an American. If Wood is correct and Lindley Murray did actually receive his first instruction in grammar at the academy, this in itself would be a strong argument for the direct influence of the institution on later schools and school practices.

There is no intention of exaggerating the influence of Franklin's academy. Probably the schools and schoolmasters did not deliberately follow the academy as a model. It is much more likely that many of them were influenced by the numerous educational writers whose works were widely circulated in America, the very men who moved Franklin to his innovation. Responsive also, as was Franklin, to the growing feeling of restlessness under the Latin curriculum as unsuited to the intensely practical life of the Nation, many of the schoolmen turned instinctively to the mother tongue. A discussion of these broader agencies, which spread the vernacular instruction far more powerfully than did the example of Franklin or of any institution, constitutes the following section.

The history of educational reforms shows that observation and imitation of actual school practices, even more than the study of educational theories, is the unrivaled moving force. To Melancthon's school, to St. Paul's, to Yverdun, to the Boston Latin, to Rugby, to Gary, schoolmen make pilgrimages, either literal or figurative; then they go home to inaugurate these innovations for themselves. There is reason to suppose that this was a common procedure in 1750 to 1775;²⁷ and the one school, above all others, which in loca-

²⁴ S. C. G., May 20, 1766. ²⁵ List printed in Montgomery. Hist. of U. of P., 284.

²⁶ Wood, Hist. of U. P., 186.

²⁷ An interesting example of this, of the date we are now considering, and establishing further the influence of the Philadelphia institution is the following: Rev. James Madison was graduated from William and Mary in 1771, and nine years later became President of that college. He is said to have introduced into William and Mary the curriculum of the Philadelphia College and Academy. In 1785 he received the degree of doctor of divinity from the University of Pennsylvania. Montgomery, op. cit., 263.

tion, in point of time, in publicity, in prestige of foundation, was most suited for such leadership was Franklin's English school of 1750. We believe that Robert Proud, in his *History of Pennsylvania in North America*, written between 1770 and 1780, was right in at least one respect when he said: "The College and Academy of Philadelphia . . . is likely . . . to become the most considerable of its kind, perhaps in British America."²⁸

3. EDUCATIONAL THEORIES SUPPORTING GRAMMAR IN AMERICA UP TO 1775.

Preceding sections presented schools and colleges teaching English grammatically and the Franklin academy as having the right to be considered the first leading secondary school with the English program. Consideration now turns to an analysis of the educational ideas which induced American schools to enlarge upon the few scattered beginnings of grammar in the eighteenth century and to adopt very widely at its close an English program with grammar as its central study.

EDUCATIONAL TREATISES IN THE COLONIES.

Several educational treatises widely known in England made their way into the American colonies before 1775. Prominent among these were "Some Thoughts concerning Education," 1639, by John Locke;²⁹ "British Education," by Thomas Sheridan, 1756;³⁰ "Observations for Liberal Education," London, 1742, by George Turnbull;³¹ "Dialogues Concerning Education," published anonymously, 1745, by James Fordyce;³² and "Essays on Education, by Milton, Locke, and the Authors of the Spectator," London, 1761 edition, by R. Wynne.³³

In 1747 Franklin advertised the works of Locke, Turnbull, and Fordyce, and showing that he was himself interested in these books

²⁸ Proud, *op. cit.*, II, 281.

²⁹ Advertised, Pa. G., Dec. 3, 1747, by B. Franklin; B. N. L., Sept. 4, 1750; N. Y. M., Sept. 24, 1752; Conn. G., Apr. 12, 1755; Ga. G., Apr. 14, 1763; B. Ch., May 1768, etc.

³⁰ Advertised, S. C. G. and C. J., Mar. 1, 1763; N. Y. M., Nov. 7, 1763; B. Ch., May 2, 1768; Va. G., June 10, 1773, etc.

The full title of Sheridan's book is "British Education; or, the Source of the Disorders of Great Britain, being an Essay towards proving, that the Immorality, Ignorance, and false Taste, which so generally prevail are the natural and necessary Consequences of the present defective System of Education, with An Attempt to show that a Revival of the Art of Speaking, and the Study of our own Language, might contribute, in a great Measure to the Cure of those Evils." By Thomas Sheridan, A. M., London, 1756 edition.

³¹ Advertised, Pa. G., Dec., 3, 1747, by B. Franklin; N. Y. G., Dec. 11, 1753; N. Y. M., June, 1775, etc.

³² Advertised, Pa. G., Sept. 22, 1747, by B. Franklin; N. Y. G., Nov. 13, 1753, etc.

³³ Advertised, N. Y. M., Sept. 30, 1765; N. Y. G. or W. P. B., Oct. 19, 1761; *ibid.*, Feb. 11, 1771; *ibid.*, Sept. 10, 1769, etc.

he quotes Locke extensively.³⁴ What is more significant he drew up his plan of English education in exceedingly close conformity to one striking passage in Turnbull. No attempt is made to use the "deadly parallel";³⁵ but the conclusion is inevitable that Franklin was thoroughly familiar with Turnbull. At any rate, every one of the main parts of the academy's English program is advocated in the same order as in Turnbull's discussion. Both writers believe that grammar, composition, declamation, oratory, and the study of English classics are primarily for the cultivation of "stile," and to cap it all the principal motive of each is regard for the various professions in which the mother tongue is to be used.

THE BURDEN OF LEARNING LATIN.

Four more contentions are discernible in the educational treatises which came to America in the eighteenth century.³⁶ The first of these is the burden of learning Latin. The revolt against the extreme hold of Latin is a very old one, having as its earliest conspicuous champions Comenius, Mulcaster, and Milton. An idea of the unspeakable grind transferred from John Sturm's Gymnasium to the sixteenth-century grammar schools of England may be seen by a glance at Sturm's curriculum. He required seven years to be spent on the acquirement of a "pure Latin style," two to be given to "elegance," and five collegiate years to be passed in learning the art of Latin speech, 14 years, with the ultimate goal of proficiency in writing and speaking the Latin tongue.³⁷

Comenius, the Bohemian educational reformer, 1592-1671, voiced one of the earliest protests against Latin instruction like that of Sturm. Comenius, to be sure, retained Latin as the most valuable study, but he would first have the vernacular taught, then a neighboring modern tongue, then Latin, Greek, etc. He advocated as well objective study of the natural world.³⁸

Mulcaster, 1582, also raised his protest: "Is it not a marvelous bondage to become servants to one tongue, for learning's sake, the most part of our time . . . whereas we may have the very same treasure in our own tongue, with the gain of most time. . . . I love Rome, but London better; I favor Italy, but England more; . . . I honor the Latin, but I worship the English."³⁹

Milton, in 1650, urges: "We do amiss to spend seven or eight years merely in scraping together as much miserable Latin and Greek as

³⁴ Franklin illustrated his "proposals" by extracts from Milton, Locke, Sheridan, Walker, Rollin, Turnbull, "with some others." In Smyth, *Life and Writings of B. Franklin*, II, 387, Franklin's quotations are given.

³⁵ See Appendix B. The writer has seen no other suggestion that Franklin followed Turnbull closely.

³⁶ Nearly all the other writers cited follow Locke very closely.

³⁷ Summary of Sturm's curriculum. Monroe, *Hist. of Ed.*, 391.

³⁸ Comenius, *Great Didactic*, Laurie, 115.

³⁹ *Elementarie*, pt. 1; Quick, *Ed. Ref.*, 300-2.

might be learned otherwise easily and delightfully in one year. . . . These are not matters to be wrung from poor striplings like blood out of the nose or the plucking of untimely fruit." He refers to the prevalent instruction as "those grammatical flats and shallows, where they stuck unreasonably to learn a few words with lamentable construction" and as "that assinine feast of sow-thistles and brambles, which is commonly set before them as all the food and entertainment of their tenderest and most docible age."⁴⁰

The goals to which these early reformers strove were, first, knowledge to be written in the vernacular; second, instruction in reading and writing for the masses, in order that this secular knowledge, like religious knowledge in the Bible, might be made accessible to all.

Before the eighteenth-century agitators began work English was established in its elementary branches in the schools and books in English teaching were widely printed; that is, the two goals of Comenius, Mulcaster, and Milton were attained. Now began the work of a second group of educational reformers, headed by the greatest master of them all, John Locke. They led the attack upon the second-line trenches of Latin and established the principle that for the masses a vernacular education of a secondary grade is equivalent to a Latin education of the same grade for a privileged few. To-day's fight is for the third-line trench and over the question, shall the classics remain as an important part of the curriculum because of the few privileged to attain the highest culture?

The newer leaders, headed by Locke, sound the same note, lamenting the heavy burden of the Latin-grammar program. Locke, in 1693, says:

When I consider what ado is made about learning a little Latin and Greek, how many years are spent in it, I can hardly forbear thinking that the parents of children still live in fear of the schoolmaster's rod. . . . How else is it possible that a child can be chained to the oar seven, eight, or ten of the best years of his life, to get a language or two?⁴¹

The Tatler of 1710 urges that masters should teach pupils to use English instead of perplexing them with Latin epistles, themes, and verses—

For can anything be more absurd than our way of proceeding; . . . to put tender Wits into the intricate maze of Grammar, and a Latin Grammar; . . . to learn an unknown art by an unknown tongue; . . . to carry them a dark round-about way to let them in at the back door?⁴²

Dr. Johnson, Franklin's friend, in the preface of his dictionary, said: "A whole life can not be spent upon syntax and etymology, and even a whole lifetime would not be sufficient."⁴³

⁴⁰ Wynne, op. cit., 5-8.

⁴¹ Wynne, op. cit., 29; Locke, *Thoughts Concerning Education*.

⁴² Tatler, IV., No. 234.

⁴³ Johnson, *Dict. of Eng. Language*, I, preface, 13.

It may be worth while to dwell upon the influence of the *Spectator* and *Tatler*,⁴⁴ because Addison and Steele speak out boldly for English grammar.

Addison and Steele enjoyed popularity on both sides of the Atlantic. Says Steele:

I found . . . the principal defect of our English discipline to lie in the Initiatory part, which, although it needs the greatest care and skill, is usually left to the conduct of those blind guides, Chance and Ignorance. . . . I could furnish you with a catalogue of English books . . . wherein you could not find ten lines together of "common Grammar," which is a necessary consequence of our mismanagement in that province. . . . The liberal Arts and Sciences are all beautiful as the Graces; nor has Grammar, the severe mother of all, so frightful a face of her own; it is the vizard put upon it, that scares children. She is made to speak hard words that, to them, sound like conjuring. Let her talk intelligibly and they will listen to her.

In this, I think . . . we show ourselves true Britons, always overlooking our natural advantages. It has been the practice of the wisest nations to learn their own language by stated rules to avoid the confusion that would follow from leaving it to vulgar use. Our English Tongue . . . is the most determined in its construction, and reducible to the fewest rules.

To speak and write without absurdity the language of one's country is commendable in persons in all stations, and to some indispensably necessary. To this purpose, I would recommend above all things the having a Grammar of our mother tongue first taught in our schools. . . . Where is such grammar to be had? . . . It is our good fortune to have such a Grammar with notes now in the press, to be published next Term.

In a footnote Wynne adds: "This, I suppose, was the English Grammar published by John Brightland,⁴⁵ with the approbation of Isaac Bicherstaff, the edition of which was published⁴⁶ in 1726." This reference to the Brightland grammar leads to the supposition that Steele was the author.

ENGLISH THE LANGUAGE OF DAILY USE.

The second note, frequently found in the treatises on education of the eighteenth century, is that English is the language of daily use. This was the burden of the *Tatler* just cited. Locke also would have grammar learned by those whose main business is with the tongue or pen, but—

it must be the grammar of his own tongue; of the language he uses; . . . it will be a matter of wonder, why young gentlemen are forced to learn the grammar of foreign and dead languages, and are never once told of the grammar of their own tongue. . . . Nor is their own language ever proposed to them as worthy their care and cultivating; though they have daily use of it, and are not

⁴⁴ Franklin undoubtedly drew his first interest in the teaching of English from his close study and imitation of these, as narrated in his autobiography.

⁴⁵ *Tatler*, IV, No. 234.

⁴⁶ Wynne, *op. cit.*, 177-9.

seldom . . . judged of by their handsome or awkward way of expressing themselves in it." . . . And since 'tis English that an Englishman will have constant use of, that is the language he should chiefly cultivate; . . . to mind what English his pupil speaks or writes is below the dignity of one bred up among Greek and Latin, tho' he have but little of them himself. These are the learned languages, fit only for learned men to meddle with and teach; English is the language of the illiterate vulgar."⁴⁰

A student "ought to study *grammar*, among the other helps of speaking well; but it must be the grammar of his own tongue . . . that he may understand his own country speech nicely and speak it properly; and to this purpose *grammar* is *necessary* but it is the *grammar only of their own proper tongues*."⁴¹

In 1769, in the Boston Chronicle, Joseph Ward strikes the note of English as of daily value to the masses as follows:

The subscriber has opened an English Grammar School in King Street. . . . The understanding the English Grammar is so necessary for those who have not a Liberal Education, and as it will greatly facilitate the learning any other Language, such a school is said by the Literati to be very much wanted in this town. . . ."

In 1769 Richard Carew asserts:

Whatsoever grace any other language carrieth in verse or prose, in tropes or metaphors, in echoes or agonominations, they may all be lively and exactly represented in ours. Will you have Plato's verse? Read Sir Thomas Smith; The Ionic? Sir Thomas More; Cicero's? Ascham; Varro? Chaucer; Demosthenes? Sir John Cheke . . . Will you read Virgil? Take the Earl of Surrey; Catullus? Shakespeare and Marlowe's fragment; Ovid? Daniel; Lucian? Spencer; Martial? Sir John Davies and others. Will you have all in all for prose and verse? Take the miracle of our age, Sir Phillip Sidney."⁴²

We have seen above that Franklin in his "proposals" stressed the idea of "Regard being had for the several Professions for which they (the students) are intended." English is the instrument of trade, of law, pulpit, and Senate Chamber. Locke pointed out that a man is often judged by his skillful or awkward use of his native language. Wynne's books spread the teaching of Locke, Milton, and Steele in America, and Turnbull follows Milton and Locke with almost the identical argument.

Milton said:

Tho a linguist should pride himself to have all the tongues Babel cleft the world into: yet if he had not studied the solid things in them as well as words and lexicons, he were nothing so much to be estimated a learned man, as any yeoman or tradesman competently wise in his own dialect only."⁴³

⁴⁰ Wynne, op. cit., 60-2.

⁴¹ Sparks, op. cit., II, 137-138. Cited by Franklin in his "proposals."

⁴² Footnote in Franklin's "Observations," Sparks, op. cit.; also Wynne, 252.

⁴³ B. G., Apr. 20, 1769.

⁴⁴ Quoted, Watson, Beginnings, 11, from "Elizabethan Critical Essays," Gregory Smith, 2, 293.

⁴⁵ Wynne, op. cit., 4, 5.

Locke expressed the obverse idea that "nothing can be more ridiculous than that a father should waste his own money and his son's time in setting him to learn the Roman language, when at the same time he designs him for a trade."⁵³ Turnbull follows in the same vein: "Few think their children qualified for a trade till they have been whipped at a Latin School for five or six years to learn a little of that which they are obliged to forget."⁵⁴

The demand for practical instruction is most vigorously demanded by Turnbull as follows:

Can any one hesitate to choose whether that his son should early be acquainted with men, manners, and things, or that he should early be a profound linguist. . . . What man of sense . . . would not rather have his son at fourteen tolerably skilled in geography and history, acquainted with the true method of unravelling nature, . . . and able to express truths of these classes with propriety and taste, in his own language . . . though he know little Latin?⁵⁵

Sheridan, in a *reductio ad absurdum* upon the utility of classical learning, tells of the "ingenious and learned translator of Milton's *Paradise Lost* . . . now starving on a poor curacy in a remote part of the country. And shall many fathers expect that their sons will be able to outdo him in learning, or have nobler opportunities of displaying it?"⁵⁶

Thomas Byerley, author of the second grammar published in America, 1779, in the same year set up a grammar school in New York. In his elaborate advertisements, after setting forth the necessity of giving up the study of Latin for the purpose of learning English grammar, he quotes Locke in the passage just cited above on the futility of making a boy learn the Roman language when he is at the same time designed for a trade.⁵⁷

Even more vigorously does William Watson speak of his school in Charleston, S. C., 1769, "for the Instruction of Youth in the English Language . . . grammatically. . . . The utility of such an undertaking is too obvious to need any Recommendation." He goes on to say that Latin and Greek are of "little consequence to those who spend their days in rural, mercantile, or mechanical Employments." He dwells on the inutility of spending "six or seven years in the study of dead languages. . . . If knowledge can be obtained . . . without the dry and tedious process . . . it may not be a useless attempt. . . . Such an attempt as this the subscriber humbly presumes to make."⁵⁸

One of the earliest notices of an English school is William Gough's, a plantation school near Charleston, in 1742. "William Gough

⁵³ *Ibid.*, 46.

⁵⁴ Turnbull, *op. cit.*, 4.

⁵⁵ Turnbull, *op. cit.*, 260.

⁵⁶ Sheridan, *op. cit.*, 222-3.

⁵⁷ N. Y. G. and W. M., Aug. 23, 1773.

⁵⁸ S. C. G., June 24, 1769.

gives notice that he is now settled entirely at the Plantation of Mr. James Taylor, and continues to teach the several most useful branches of learning (in the English Tongue) according to the London Method, whereby Youth may be qualified for Business by land or Sea."⁵⁹

THE IMPORTANCE OF STANDARDIZING AND PRESERVING THE ENGLISH TONGUE.

We have pointed out that the plans for Franklin's academy matured while Philadelphia, and, indeed, the colonies at large, were under the influence of Whitefield's oratory. The emphasis of the Philadelphia program upon oral English may have received its immediate inspiration from that source. But there was a far-reaching appeal for public speaking of greater significance than the inspiration of any one man. This larger appeal runs through the educational treatises which both in England and in America led the eighteenth-century movement for the vernacular. Indeed, the discussion which follows shows that the movement to place vernacular on a par with Latin found its early strength in two correlated arguments: First, that the cultivation of a style for pure speech would assist in formulating, standardizing, and preserving the English tongue; second, that in the new world, with its conglomeration of tongues, the schools must make an effort to keep the vernacular free from the influence of other languages and to establish English as the standard language of the new land.

A pretentious elaboration of the first of these arguments is the treatise of Thomas Sheridan. His large volume of 534 pages, dedicated to the Earl of Chesterfield, prime minister and famous orator, develops the thesis that a "Revival of the Art of Speaking, and the study of our own Language, might contribute to the Cure of that . . . Ignorance and False Taste, which so generally prevail."⁶⁰

In his address to Lord Chesterfield, Sheridan says: "The scheme is: A design to revive the long-lost art of oratory and to correct, ascertain, and fix the English Language."⁶¹ In almost every chapter Sheridan acknowledges his indebtedness to Milton, Swift, Locke, and Addison. Out of the writings of these men Sheridan has judiciously extracted those passages which champion the vernacular, especially oral instruction in it.

Two postulates underlie Sheridan's argument: First, the causes which stressed Latin and Greek dedicated so vast a portion of time to

⁵⁹ S. C. G., Feb. 13, 1742.

Gough does not advertise grammar. "Reading, Writing, and Arithmetic in all its Branches" are his principal subjects. Before 1750, and, indeed in all the advertisements up to 1775, arithmetic in all its branches, as an intensively practical subject, appears almost invariably. The appeal of, immediate practicality, found effective in arithmetic, gradually creeps into the announcements of English speaking and grammar.

⁶⁰ Sheridan, op. cit., title page.

⁶¹ Ibid., preface, VI.

the acquisition of skill in those languages and at the same time the pupil's own was totally neglected and no longer of any force.

The learned languages are no longer the sole repositories of knowledge; . . . the English is become an universal magazine . . . of all wisdom. . . . Add to this, that we have many excellent writers of our own, besides, the language itself has been so much enlarged and improved. . . . To state the account in short between our forefathers and us, they shewed great wisdom and good sense in making the learned languages the chief study in their days (time of Reformation) because, however round about the way, knowledge was then to be acquired in none other; and because our own, then poor and uncultivated, could be in no other way enriched or refined. . . .⁶³

English is the language most universally read by Englishmen.⁶⁴

The second postulate is that as yet, say in 1750, English had no fixed standard. Sheridan complains of general "bad taste which is allowed to prevail," both in writing and speaking, on the part of public men, of "the amazing number of wretched pamphlets," and of "those heaps of trash, which are constantly exposed to sale in the windows of booksellers, like unripe fruit, greedily devoured by green-sickness appetites, and which fill the mind with crudities." Quoting Steele, Sheridan says: "I would engage to furnish you with a catalogue of English books . . . within seven years past . . . wherein you could not find ten lines together of common grammar or of common sense."⁶⁴

Upon these two postulates Sheridan constructs his plea that oratory fixed the standards of the ancient languages and perpetuated them; that the other nations of Europe—

the French, Italians, Spaniards, etc., . . . after having enriched and illustrated their several languages by the aids and lights borrowed from the Greek and Roman, employed the utmost industry to refine, correct, and ascertain (make certain) them by fixed and stated rules. . . . The English alone left theirs to the power of chance or caprice; insomuch that it is within a few months that even a dictionary has been produced here.⁶⁵ Whilst in all the others many excellent grammars and dictionaries have long since been published.⁶⁶

Both the ancients and all moderns but the English studied their own languages with respect to what is pure and correct in style and in pronunciation.

What shall we say to our practice so contrary to that of polished nations . . . (we) who take great pains in studying all languages but our own? Who are very nice and curious in our choice of preceptors for the ancient and modern tongues, yet suffer our children to be vitiated in the very first principles of their own. Is it because that the knowledge of our language is so easily acquired, that it can scarce be missed? This surely can not be said when it is universally

⁶³ Ibid., 217-9.

⁶⁴ Ibid., 228.

⁶⁵ Ibid., 227, Tatler IV, No. 230.

⁶⁶ This refers to Johnson's Dictionary and fixes the date for Sheridan's first edition.

⁶⁷ Ibid., 212-3.

allowed that there are hardly any who speak or write it correctly. Is it because we have less use for it than for any other? ⁶⁸

When we consider that after Greek and Roman languages were brought to a standard of perfection, when their youth had the advantage of established invariable rules upon which to found their knowledge; of able preceptors to instruct and guide them; of the noblest examples and most perfect patterns for their instruction; . . . shall we who have none of their advantages, without any pains or application expect to have a competent knowledge of one, which in its present state is far more difficult to be learned than theirs? This omission in our education . . . is wonderful.⁶⁹

And the supreme means of establishing this uniformity of fixing and ascertaining the tongue is, according to Sheridan, the fostering of the "ancient art of oratory"; by this means "our Shakespeare and our Milton" will not be suffered "to become two or three centuries hence what Chaucer is at present, the study of only a few poring antiquarians, and in an age or two more victims of bookworms." Sheridan completes his argument with the curious fallacy that the orators of a nation are its sound philosophers; that they perpetuate a language; that upon them and their art depends the safety of their nations.⁶⁹

It is highly significant that Sheridan dedicated his work to Chesterfield, an eloquent orator of his day. Moreover, Chesterfield had made a public proposal to the provost and fellows of the University of Dublin, while he was viceroy of Ireland, "for the endowment of proper lectures and exercises in the Art of Reading and Speaking."⁷⁰

The project failed. In his preface Sheridan comments upon an innovation recently made in Eaton by Barnard and at Rugby by Markham, by which, "amongst many other good customs . . . pronunciation and the art of speaking are now made effectual points."⁷¹ This appears to indicate that the English schools were not many years in advance of the American.

Only one of Sheridan's arguments is likely to have had a strong appeal in America. Americans had no literature of their own; they were not primarily interested in the establishment of a standard style of literature; the appeal for the preservation of the language of Shakespeare and Milton was remote from the interests of the new land. The main interest of Americans would lie in the substance of Sheridan's appeal, not in the reasons for it. He wished to teach oratory; he eulogized public speech; he lauded correct pronunciation and fluent oral address. This would appeal especially to Americans, with their democratic town meetings, their traditions of pulpit leadership, and their necessity of oral communication in general. Moreover,

⁶⁸ Sheridan, *op. cit.*, 195-196.

⁶⁹ *Ibid.*, 196-7.

⁷⁰ *Ibid.*, XXIX.

⁷¹ *Ibid.*, preface, XVII.

⁷² *Ibid.*, XIV.

statesmanship in the local governments and provincial councils was the goal of parents for their children. The profession of the law was increasing in popularity, and in any and all lines of activity effective speech was looked upon as a prime requisite.

Private schoolmasters were not slow to realize the popularity of this appeal. Advertisements of the day are replete with it. For example, "The boys learning oratory make orations every fortnight";⁷² "I intend teaching the English language with proper accent and emphasis";⁷³ "parents . . . may depend on having their children . . . diligently instructed in grammatical English, with due attention to emphasis, pause, cadence, and puerile declamation";⁷⁴ "weekly exercise of reading the English authors with propriety and grace";⁷⁵ "the Boys, as soon as they are capable to be exercised in pronouncing Orations";⁷⁶ "nor will the true pronounciation, the proper stops, emphasis, accent and quantity be neglected";⁷⁷ "Pains will be taken to form them early for Public Speaking";⁷⁸ "Great pains are taken to cultivate the Art of Public Speaking, which is necessary in order to shine in the Senate, at the bar, or in the pulpit";⁷⁹ boys who have "a taste and talents for Oratory may be taught rhetoric and to pronounce with due action and diction."⁸⁰ The first advertisement of King's College (Columbia), 1754, added to the learned languages "reasoning, writing, and speaking eloquently."⁸¹

An exact expression of this idea, that neglect of vernacular grammar caused incorrect speech, which had been taken verbatim from Sheridan or paraphrased from him, is found in the announcement of William Johnson, who set up an English grammar school on Union Street, Charleston, S. C., in 1767. He says:

It is a common, but too well-grounded complaint that a grammatical study of our own language seldom makes any part of the ordinary method of instructing youth. . . . To this neglect may justly be attributed the great incorrectness of speech, observable amongst almost all ranks of people . . . to remedy which . . . is the point the proposer has in view.⁸²

There was a growing realization that the Nation ought to have one common language; that the best national life could not obtain if English, German, French, Dutch, Scandinavian languages—not to mention others—should each remain the speech of a portion of the people. Moreover, the mingling of so many tongues must certainly result in

⁷² Joseph Garner, Pa. G., July 3, 1765.

⁷³ Mary McAllister, Pa. G., June 4, 1767.

⁷⁴ John Hefferman, Pa. G., Sept. 14, 1774.

⁷⁵ Witherspoon, Princeton, N. J., Pa. J., Mar. 2, 1769.

⁷⁶ Jacob Giles, Mount Pleasant, Md., Md. G., July 19, 1765.

⁷⁷ Grammaticaster, Pa. G., Oct. 29, 1767.

⁷⁸ James Thompson, Charleston, S. C., S. C. G., Dec. 10, 1772.

⁷⁹ Somerset Academy, Maryland, Va. G., Feb. 23, 1769.

⁸⁰ Andrew D'Ellicent, Charlestown, S. C., S. C. G., May 20, 1766.

⁸¹ N. Y. G. and W. P. B., May 31, 1754.

⁸² S. C. G., June 15, 1767.

the corruption of them all, and especially of the dominant one. the English. It is certain that this feeling was present in the minds of the authorities in the College and Academy of Philadelphia, inasmuch as Pennsylvania had an exceedingly composite population. In 1758 Provost Smith, the chief Latinist against whom Franklin inveighs, wrote an article, which appeared in the *American Magazine* in October of that year, entitled "Account of the College and Academy of Philadelphia." He says:

Oratory, correct Speaking and Writing the Mother Tongue is a branch of education too much neglected in all our *English* Seminaries, as is often visible in the public performance of some of our most learned men. But in the circumstances of this province, such a neglect would have been still more inexcusable than in any other part of the British dominions. For we are so great a mixture of people, from almost all corners of the world, necessarily speaking a variety of languages and dialects, that true pronounciation and writing of our own language might soon be lost among us without such a previous care to preserve in the rising generations.⁸³

A schoolmaster of New York, advertising an English grammar school in the consistory room of the French church, says: "The English Grammar, . . . the learning of it being indispensably necessary in an English country, I intend to teach to all my scholars."⁸⁴

Benjamin Franklin himself voices this appeal:

Why should you . . . leave it (America) to be taken by foreigners of all nations and languages, who by their numbers may drown and stifle the English which otherwise would probably become in the course of two centuries the most extensive language in the world. . . .⁸⁵

It appears that we have now reached the heart of the primary cause which forwarded the study of English grammar. A movement, in the words of Sheridan cited above, "to refine, correct, and ascertain (make certain) the English language by fixed and stated rules" is essentially grammatical. Samuel Johnson's dictionary, and others, standardized English diction. Sheridan spoke the truth when he said that the English needed "the advantage of established and invariable rules" upon which to establish and perpetuate the language.

The very prevalence of illiteracy in the public and private speech of the eighteenth century demanded the study of grammar. Granted that the mother tongue was more useful and less laborious than Latin, granted that it was desirable to speak and write well, granted that Dilworth, Greenwood, Lowth, and the *British Grammar* had reduced English to "established and invariable rules," it seems to have followed with irresistible logic that the schools must teach English

⁸³ Montgomery, op. cit., 520-9.

⁸⁴ N. Y. G. and W. P. B., June 5, 1766.

⁸⁵ Letter to Wm. Strahan, Passy, Aug. 19, 1785. Sparks, op. cit., II, 131.

grammar. Hence we find that every one of the schoolmasters cited in a previous paragraph as teaching oratory also taught grammar. Are we not safe, then, in saying that English grammar came into the curriculum primarily as a result of the popularity of the teaching of public speaking and secondarily as the result of a desire to make rising generations familiar with "fixed and stated rules"?

As a corollary, the study of English as a language came as an antidote for the variety of languages spoken by early settlers, especially in the middle colonies. It is perhaps more accurate to say that it was an attempt to keep English the dominant language of the new continent.

HIGHER EDUCATION FOR THE MASSES IN 1650 AND IN 1750.

Massachusetts and her sister colonies inherited the idea of education for leadership. The grammar schools of England, prototypes of the higher schools set up in New England by the laws of 1647 and 1650, were planned distinctly for an intellectual, educational, and political aristocracy. The society from which the first settlers came was distinctly a class society. Many of the Pilgrim Fathers and their immediate successors from England came from the smaller landed gentry in the mother country. Moreover, the first settlers, although apparently possessing a democratic form of government, characterized in local affairs by the town meeting, were in reality controlled by a relatively small group of leaders. These men, as we have seen, were clergymen, but their authority and influence extended over almost every aspect of life. To perpetuate this leadership Harvard College was founded only eight years after the settling of Massachusetts Bay. To the college, with its inherited curriculum of the classics, must be sent the more promising youth, prepared either under the private tutorship of some clergyman or in a suitable school. This is the origin of the grammar school in America.

Given a grammar school, some means must be provided for the preliminary education considered necessary for entrance. This was provided either by dame schools or by the reading schools or by grammar schools. Along with this idea of higher education for leadership there existed a second idea. This was that all citizens must be taught to read the Scriptures and to understand the capital laws of the country. The idea of universal education grew out of a combination of these two purposes. Briefly, universal education in 1650 meant universal ability to read, possibly to write and cipher, and widespread opportunity to train leaders.

By the middle of the next century a somewhat different idea of universal education was dawning. Various causes had reduced the importance of religious leaders. The rough life of the new continent

had brought out native qualities of leadership, undeveloped by education. The ancient classics did not hew the forests, blaze pathways into the wilderness, nor fight back Indians. A Benjamin Franklin, forced at 13 to forego the higher schools of Boston, by sheer native merit had made himself an influential man. Many lesser Franklins had raised themselves in various settlements. Just as on the American frontiers of the early nineteenth century a vigorous and robust democracy seemed to produce and develop Jacksons and Lincolns, so 100 years earlier kindred causes were at work in New York, Pennsylvania, Maryland, and the rest. No longer did it count primarily what a man knew. What he could do was far more important. In short, after 1650, 100 years of frontier life had demonstrated that suitable leaders were forthcoming in all aspects of life, except possibly the ministry, irrespective of a classical education.

If this be true, when the frontiersmen of the eighteenth century found themselves victors in the first severe struggle with privations and established in somewhat settled communities, they began again to think of education.⁸⁶ Their uncouth manners and dress were like their intellectual life and their speech—strong, but coarse. A desire for refinement grew apace, if not for themselves, at least for their children. In addition, new professions and occupations came into prominence as the communities became more stable. All these newer professions were the outgrowth of the new country itself, and, like the needs which called them forth, they were practical, everyday man-to-man occupations. Still further, as always in a new land, statesmanship offered an attractive field.

All of these causes had grown out of the soil. Unschooled men controlled public opinion. This type of society, living intensely in the present, both ignorant and scornful of the past, craved an education that would furnish direct help in everyday life. A vernacular education of a higher order than reading and writing, including the "practical branches of mathematics," the modern languages, history, geography, and, above all, a mastery of the English tongue, was the outcome. In short, the ideal of universal education retained in 1750 its central idea of 1650—equal opportunity for all; but there had come in a noteworthy enlargement of it. In 1750 no American was predestined for a high rank in life; out of the masses themselves were to come the leaders; a practical education for all was to open the way. On the crest of this wave the mother tongue was carried to the foremost place in American education.

⁸⁶ Franklin, *Autobiography*, 177.

SUMMARY AND CONCLUSION.

Several lines of investigation have been advanced to enable us to answer the questions: When, where, why, and by whom English grammar made its first appearance in the curricula of American schools. Conclusions reached are as follows:

1. Textbooks in English grammar do not seem to have been imported until about 1750. Dilworth's was published in England in 1740 and had its first American reprint in 1747.⁸⁷

Dilworth's was introduced primarily as a speller. After 1750 there is considerable evidence that Greenwood's and several other British grammars made their way into the colonies.

2. There were at least two grammars written and published in America before the Revolution—Johnson's and Byerley's. Considering the rush of American texts in grammar after 1784,⁸⁸ this early scarcity is strong negative evidence to the effect that attention to grammar was relatively insignificant before the appearance of Webster's first book in 1784. In addition, seven grammars by English authors were reprinted in America before 1784. Our estimate places the number of texts before Webster's, both native and imported, at 10. Of these Dilworth's was the only one available for the schools in large numbers. Dilworth's "New Guide," although primarily a speller, deserves the name of the first American textbook in English grammar.

3. A respectable number of private schools, of which we have mentioned 60, some of them called English grammar schools, were offering courses in "English, as a language" by 1775. These schools began to appear before 1750; they were most numerous in the middle colonies, in the regions neighboring to Philadelphia Academy, where Franklin's program of the vernacular struck a plane never reached before. The New England colonies, with the classics more firmly intrenched, resisted the innovation for two decades after the middle colonies had adopted it.

4. A careful consideration of Franklin's plan leads to the conclusion that this English school, preceding any general importation or publication in America of textbooks in grammar, deserves the honor of setting a positive example of a full vernacular program of secondary grade and of being imitated by masters tired of the old type of schools. Therefore the year 1750 is selected as the date when the higher branches of the vernacular, including grammar, entered seriously into American education. To Benjamin Franklin, in this, as in many other respects, America owes a debt of gratitude. As his experiments in science antedated by decades general school instruction in

⁸⁷ Wickersham, in Pennsylvania, is in error in assigning this date as 1757. Wickersham, *Hist. of Ed. in Pa.*, 197.

⁸⁸ See Chap. IV, p. 80.

them, so his experiment in vernacular education was more serviceable as an example and a model than as an actual accomplishment.

5. Representative curricula of colleges and secondary schools showing the earliest appearances of grammar are in accord with the inferences reached above. Before 1750 curricula do not show grammar. After 1750 to 1790 first, private schools; second, colleges; third, public schools, seem to have followed Franklin's lead. In fact, the colonies effected the independence of their schools and colleges from the exclusive hold of the classics contemporaneously with their political independence.⁸⁹ The latter separation was itself not a sharp breaking off; similarly the struggle for the supremacy of the vernacular as the supreme study in the schools was long protracted. The traditions of Latinized instruction, which almost routed Franklin's English program, although they could no longer keep the vernacular in the background throughout the Nation at large, now did the next best thing—they Latinized the methods of teaching English grammar. To a discussion of this Latinizing process in methods we now turn. If the entrance of grammar was an arduous struggle, its emancipation from Latin methods was little short of a titanic one.

6. In answer, then, to the question, When? the answer is 1750, with due reservation for a few obscure earlier efforts. Where? In the middle colonies, headed by Pennsylvania. Why? As the core study of an English program to supplant the classical program for students fitting for practical life. By whom? By Hugh Jones, the first American grammarian; by Waterland, who first taught grammar in an American school; by Franklin, who projected the model English program; by William Samuel Johnson, first president of Columbia, the first American to write a grammar published in America and the first college official to put English on a par with the classics in a college curriculum.

This is a far cry from the credit which has hitherto been awarded to Noah Webster and New England.

⁸⁹ Brown in his "Making of Our Middle Schools" states that the growth of nationalism and national literature had little effect on the schools; that "it took the Romantic Movement and the American and French Revolutions to give the mother tongue an assured position in the program of instruction." *Mid. Sch.*, 188. To the present writer this appears to be only a part of the truth; it is possibly a *post hoc ergo propter hoc*. It seems more accurate to say that in America all revolutions, political, educational, and possibly religious, were largely due to the same fundamental causes. In each there is revolt against outside authority, revolt against established traditions, and a determination that the individual and the nation have a right to live, not in the past but in the future, a vital, active, aggressive life.

Chapter IV.

THE RAPID RISE OF GRAMMAR AFTER 1775.

The period immediately after the Revolution marks the well-nigh universal adoption of English into the curricula of American schools. Earlier sections have indicated that the time was ripe. Many successful experiments had been made in private schools; the Latin curriculum, with its apparent unfitness for the intensely practical life of the new continent, was becoming more and more unpopular; for a considerable number of years colleges had been teaching grammar, composition, and oratory. In fine, irrespective of the Revolution, the time had arrived when a rapid spread of the subject was to be expected. And just as the new national life of England in the sixteenth century, with the accompanying pride in its self-sufficiency, brought forth a vigorous demand for the vernacular, so the national independence of America cooperated powerfully with other causes in transferring generally to the public schools the higher branches of the vernacular. The fact is that increased attention to the English language is the most significant change that occurred in the curricula of the schools after the States began to recover from the turmoil and disruption of war.

1. THE LEGISLATIVE RECOGNITION OF GRAMMAR.

The entire history of education in New England up to the end of the eighteenth century seems to have been preparing the way for the laws which, shortly after the Revolution, placed English in the curriculum and almost, if not quite, on a par with Latin. The Latin curriculum especially was increasingly unpopular. Massachusetts, Connecticut, and New Hampshire each passed a series of laws with increasing fines for failure to keep open the prescribed schools,⁹⁰ indicating a failure of school spirit in New England.⁹¹ This was referred

⁹⁰ In 1647 Massachusetts levied a fine of £5 (Rec. Co. Mass. Bay, II, 203); in 1671 the fine was increased to £10 (ibid., IV, second vol., 486); in 1683 towns of 200 families were fined £20 (ibid., V, 414); in 1692 the fine for failure to keep an elementary school was increased to £10, but the penalty for a grammar school was not altered (Acts and Res. Pro. Mass. Bay, 1, 63); in 1701 the fine was imposed on towns proportionally for the time they were delinquent (ibid., 470); and in 1718 the fine was increased to £20 for towns of 150 families, £40 for towns of 200 families and £50 for towns of 250 families (ibid., II, 100).

The series of increasing fines in Connecticut begins in 1650 (Rec. Col. Conn., 1, 521) and continues in 1677 (ibid., II, 307-8), in 1678 (ibid., III, 9), and 1700 (ibid., IV, 331).

For New Hampshire see Laws of New Hampshire, Prov. Period, I, 561, 337, 358.

⁹¹ Martin, *Evolution of Mass. Sch. Sys.*, 85.

to in the election sermon of 1762 by Rev. Thomas Shephard, in which he laments especially the decay of the Latin schools preparatory for Harvard.⁹² While it is true that some of these laws fined towns for failing to support English schools, the main inference is that the Latin schools, set up under the early laws by a university generation, were too advanced for primitive communities successfully to maintain in operation.

This being the case, many towns found that the best way to comply with the requirements for both Latin and elementary schools was to combine them; that is, to provide a schoolmaster qualified to give instruction in both the classics and the elementary branches of the vernacular. Records of so-called grammar schools in many towns indicate that this combination was effected. For example, Salem in 1677 "agreed with Mr. Eppes to teach all such scholars . . . in y^e English, Latin and Greek Tongue";⁹³ Nearly 100 years later, in 1752, the same town found it necessary to vote that each of the boys "who go to the grammar school must study Latin as well as read and write and cypher."⁹⁴ In 1691 Cambridge voted to engage a schoolmaster "to teach both latten and english and to write and sipher,"⁹⁵ and in 1679 Watertown agreed with Richard Norcros to teach for three months only "lattin schollurs and writturs . . . and the other 8 munths . . . both lattin and inglish schollurs."⁹⁶ Other towns showing the combination of Latin and English schools were Dedham, 1667;⁹⁷ Plymouth, 1725;⁹⁸ and Braintree, 1690, which provided

⁹² Felt, *Ann. of Salem*, 433.

⁹³ Relation between the Latin and the English program is interestingly shown in the history of the schools of Salem. In 1667 records of the town show one school for both branches (Felt, *op. cit.*, 434); in 1713 there were separate schools called the English and the Latin schools (*ibid.*, 442); in 1743 the town voted to combine the two under a master and an usher (*ibid.*, 447); this act was revoked three years later, 1746 (*ibid.*). In 1752 the town was compelled to justify the existence of a Latin-grammar school by a special act requiring that every boy, a pupil there, must study Latin as well as reading, writing, and arithmetic (*ibid.*, 448). In 1796, as a natural consequence of the unpopularity of Latin manifested in the preceding order, for the first time the records show the English master made a peer of the Latin master both in title and salary. The town voted that each English master have a salary of £150 and "find ink" and that the Latin master have £130 (*ibid.*, 456). In 1801 notice is published that writing, arithmetic, English grammar, composition, and geography are to be taught in the grammar school besides Latin and Greek (*ibid.*, 458). In other words, the Latin-grammar school is now made over into an English school, with the classics secondary. It is curious to find that in Salem English grammar was not added to the curricula of the English schools, although, as we have seen, it was added to the grammar school in 1801. In 1816 this provision was made also for the English schools to supply "a grammatical acquaintance with their native tongue" (*ibid.*, 464), and finally, in 1827, the Latin and the English high schools of the town appear to be on a par (*ibid.*, 474). This struggle of the two programs in Salem is suggestive of what may have taken place in many other towns in the course of 150 years.

⁹⁴ *Ibid.*, 448.

⁹⁵ *Rec. Town Cambridge, 1630-1703*, II, 296.

⁹⁶ *Watertown Rec.*, I, 137.

⁹⁷ *Rec. Town Dedham, 1659-73*, 133.

⁹⁸ *Rec. Town Plymouth*, II, 232.

"Master to be agreed with as will be willing to Teach english as well as Latten, and also to Teach wrighting and Cyphering."⁹⁹

Both the legislative efforts to compel towns to maintain Latin schools and the efforts of the towns themselves to stress the vernacular rather than the Latin indicate a leaning toward the State laws which, in the decades immediately following the Revolution, gave English an equal legal standing with the classics. These laws may be said to fructify the tendencies of the previous 150 years. The makers of the Massachusetts law of 1789 and corresponding laws of other States, which will be cited, realized that a renewal of educational enthusiasm must center around the national tongue, eloquent testimony to the fact that the study of English "as a language" had advanced very rapidly since its first feeble beginnings.

In 1789 Massachusetts required that "every town . . . containing two hundred families . . . shall be provided with a grammar school-master . . . well instructed in the Latin, Greek and English Languages." This school was to be kept for 12 months. Every town of 150 families was to keep a similar school six months; every town of 100 families, an English school for 12 months; every town of 50 families, an English school for six months; that is, "every town . . . containing fifty families . . . shall be provided with a schoolmaster . . . to teach children to read and write and to instruct them in the English language, as well as in arithmetic, orthography, and decent behavior."¹ Moreover, the statute allows selectmen to maintain mixed schools if they prefer. This, for example, is what Braintree did in 1790.²

Martin points out that by this act 120 towns out of 270 in Massachusetts were relieved of the necessity of keeping a Latin school.³ In 1825 Massachusetts relieved all towns of less than 5,000 inhabitants of the Latin school.⁴ In short, between 1789 and 1825 compulsory Latin-grammar education may be said to have passed; English schools, with the English curriculum, including English grammar, had been substituted.

Boston, pursuant to the law of 1789, completely reorganized her schools. A manuscript copy of "The System of Public Education," bearing the signature of John Scollay, chairman of the board of selectmen, under date December 1, 1789, was in the possession of Jenks when he wrote his "Sketch of the Boston Latin School." This manuscript indicates how prominent a place was assigned to the various branches of the vernacular in the Boston schools. The center of the system was a classical grammar school, for entrance to which two

⁹⁹ Braintree Town Rec., 1640-1693, 598.

¹ Perpet. Laws of Com. Mass., 1799, II, 39.

² Braintree Town Rec., 1640-1793, 598.

³ Martin, *Ev. of Mass. Sch. Sys.*, 85.

⁴ Laws of Com. of Mass., X, 558.

prerequisites are indicated. The boy must have reached the age of 10 years and must have been "previously well instructed in English Grammar." In addition, there were three writing schools and three reading schools, in which children of both sexes were to be taught to "spell, accent, and read both prose and poetry, and also be instructed in English Grammar and Composition." In the reading schools textbooks include the Holy Bible, Webster's Spelling Book, The Young Ladies Accidence (Caleb Bingham's elementary grammar), and Webster's American Selections. It is also ordered that "the upper Class in the Reading Schools be instructed in Epistolary Writing and other Composition."⁵

It is not asserted here that the Massachusetts law of 1789 made English grammar compulsory,⁶ but that this law, as those of several other States, was enacted in response to a demand for increased attention to vernacular instruction. In Massachusetts English grammar was specified in the law of 1835.⁷

The Vermont laws of 1797 and 1810, while they do not mention grammar, do nevertheless stress the vernacular.⁸ Virginia in 1796 enacted a similar statute,⁹ and Delaware, in 1796, defines a "good English Education," prescribing "the English language, arithmetic, and other such branches of knowledge as are most useful and necessary in completing a good English education."¹⁰ The regents of the University of the State of New York, in 1793, in a report to the legislature say: "We can not help suggesting . . . the numerous advantages that would accrue . . . from the institution of schools . . . for reading their native tongue with propriety . . . writing . . . arithmetic. . . ."¹¹ The ultimate effect of these laws was, of course, to stress grammar together with the other "senior branches"¹² of English. However, the effect of the universal turning to the vernacular, as it bore particularly upon grammar, may be seen better in certain State laws contemporary with the Massachusetts law which specifically mention the subject.

The first State legislation to speak definitely of grammar appears to have been the New York law of 1797, which provided "for maintaining one or more free schools in the city of New York, in which Scholars shall be instructed in the English Language, or be taught reading, writing, the English grammar; arithmetic, mathematics, and

⁵ Jenks, *Cat. and His. Sketch Boston Latin School*, 286; original document printed in full.

⁶ Corey makes this mistake. *Hist. Malden*, 631.

⁷ *Rev. Stat. Mass.*, chap. 23, sec. 1.

⁸ *Laws State Vt.*, Wright, 1808, I, 181; *ibid.*, Fay Davidson and Burt, 1817, III, 236.

⁹ *Stat. at Large of Va.*, Shepard, 1835, III, 5.

¹⁰ *Laws State Delaware*, S. and J. Adams, 1797, II, 1298.

¹¹ *Hist. and Sta. Rec. of the Univ. of N. Y.*, Hough, 66.

¹² This suggestive phrase is used in the charter for Potosi Academy, Mo., 1817. *Laws Dist. Louisiana, etc.*, 1804-1824, Lush & Son, I, 519.

such other branches as are most useful and necessary to complete a good English education."¹³

By 1827 the legislature, acting on repeated recommendations of the regents, was ready to pass the law making academies training schools for teachers. The law of that year includes this declaration:

No student shall be deemed to have pursued the higher branches of an English Education unless he shall have advanced beyond such Knowledge of common vulgar and decimal arithmetic, and such proficiency in English grammar and geography as are usually obtained in common schools.¹⁴

The first State-wide act definitely prescribing grammar seems to have been the 1798 law of Connecticut:

Enacted, That any School Society shall have liberty . . . to institute a School of higher order . . . to perfect the Youth . . . in Reading and Penmanship, to instruct them in the Rudiments of English Grammar, in Composition, in Arithmetic and Geography, or, on particular desire, in the Latin and Greek Languages, also in the first principles of Religion and Morality, and in general to form them for usefulness and happiness in the various relations of social life.¹⁵

It is significant to note here that Noah Webster's grammars were being published in Hartford between 1784 and 1790. The State law of 1790¹⁶ had retained the compulsory grammar schools in county towns; but the law of 1798 abolished this obligation and gave any school society the right to substitute, on a vote of two-thirds of the inhabitants, English schools of a "higher order." Noteworthy, too, is the suggestive phrase at the end of the law of 1798—"in general to form them (the pupils) for usefulness and happiness in the various relations of social life." All these considerations indicate that in the lawmakers' minds must have been a conviction that the traditional curriculum must go, that schools of higher order must be retained, but that in the nature of English schools grammar and composition were the vernacular branches of the "senior" order, and, finally, that usefulness and happiness in everyday life for all and not for a few highly educated individuals was the supreme purpose of the new English education. Brown very fittingly characterizes this revolution in the curriculum at the end of the century as coming in response "to the chaotic desire to study the vernacular" and prefaces that expressive characterization by affirming that "in the study of English grammar a means was found for giving vent" to this desire.¹⁷

The legislation of New Hampshire is especially enlightening concerning the status of grammar. The first educational law after the Revolution, repealing all previous acts, provided funds, in 1789, which—

¹³ Laws State N. Y., 1797 to 1800, inclusive, IV, 42-3.

¹⁴ Laws State N. Y., Croswell, 1827, 237.

¹⁵ Acts and Laws Conn., Hudson and Goodwin, 1796, 1802 edition, 483.

¹⁶ Ibid., 373.

¹⁷ Brown, Mak. of Mid. Sch., 234.

shall be applied for the sole purpose of keeping an English Grammar School . . . for teaching reading, writing and arithmetic, except in shire and half shire towns, in which the school by them kept shall be a Grammar School for the purpose of teaching the Latin and Greek.¹⁸

This statute uses the term English grammar school, meaning merely an English secondary school, not a school based on English grammar. But it implied an effort to raise the English school to a higher dignity than before, placing it in title at least on the same footing with the Latin-grammar school. Obviously the real difficulty here is that the lower branches of the vernacular do not possess the substance to present the same drill in an English-grammar school as in a Latin. In order to make the curriculum somewhat analogous and to justify the claim of equal dignity, the higher branches of the vernacular—grammar and composition—would be the next logical advance for the English-grammar schools.

This step was taken by New Hampshire several years later, in the law of 1808, ordering an extension of the curriculum of the English school, and, what is even more significant, dropping the provision for Latin schools in shire and half shire towns “for the sole purpose of keeping an English school . . . for teaching the various sounds and powers of the letters of the English Language, reading, writing, English Grammar, arithmetic, geography, and such other branches of education as it may be necessary to teach in an English School.”¹⁹ To be noted here is the fact that most of the English grammars of the day, of which by 1808 there were at least 49²⁰ published or used in America, had orthography as their first section, usually defined as “the various sounds and powers of the letters.” This phrase in the law, then, with the term English grammar, is certain proof of the legal sanction of this branch in a secondary school which was clearly intended to supplant the Latin school.

The law of 1808 goes still further. It provides that “no person is qualified to teach unless he or she procure a certificate from some able and reputable English Grammar school-master.”²¹ For schoolmistresses it is demanded that “the literary qualifications of schoolmistresses be required to extend no further than that they are able to teach the various sounds and powers of the letters in the English Language, reading, writing and English Grammar.”²² It is clearly shown by the specifications concerning schoolmistresses that English grammar was prescribed for elementary schools. Ultimately grammar was placed in schools in almost all parts of the country which were neither elementary nor secondary, but distinguished by the name

¹⁸ Laws State of N. H., Melcher, 1792, 276.

¹⁹ Laws State of N. H., Norris, 1815, 368.

²⁰ A list of grammars was compiled but has been omitted in this publication.

²¹ Ibid., 368.

²² Ibid., 369.

"grammar school."²³ As indicated above, it is quite often impossible to determine whether a legal enactment follows or precedes the general adoption of a subject into the curriculum. However, the general absence of textbooks before 1790²⁴ makes it appear that the public schools at least could not have attempted grammar very generally before that date. But the private schools, as we have seen, were turning more and more to the English curriculum, following the tendency seen in its beginnings between 1750 and 1775. Not infrequently during the two decades before 1800 references are made in various academies to "Professors of English."²⁵

SIGNIFICANCE OF THE RISE OF THE ENGLISH SCHOOLS.

In the laws of two centuries there is discernible a marked tendency toward the gradual elimination of a classical education. Geography and history, with the feeble beginnings of science, were receiving a little attention; but around the English branches, especially grammar and oral composition in the form of oratory, the new curriculum was in formation. With the passing of Latin, seeming to many unrelated to "usefulness and happiness in the various relations of social life," there was left little language study suitable for any but the most elementary instruction. In the Latin school the backbone of the course

²³ It does not appear that many States specifically mention the incorporation of grammar by State law in their curricula. The Louisiana law of 1826 placed in the primary schools of New Orleans "a professor" to teach "the elements of the English and French grammar." New Digest Stat. Laws of Louisiana, Bullard and Curry, 1842, I, 374. In 1834 Maine followed the usual practice of the day by providing that "no person shall be employed as a schoolmaster . . . unless . . . well qualified to instruct youth in reading and writing the English Language grammatically." Rev. Stat. State of Me., Smith & Co., 1841, 169. The law makes the same requirement for schoolmistresses. Ibid.

²⁴ Chap. IV, p. 77.

²⁵ A case in point is the Delaware Academy of Wilmington, primarily a classical school, which as early as 1786 had a "Professor of English." An extract from the curriculum shows "English, Lowth's Grammar, Blair's Lectures in Rhetoric," and even "the higher English classics frequently employed in exercises and compositions." References like this to English classics before 1800 are extremely rare. Powell, Hist. of Ed. in Del., 45.

The grammar school of Brown University, in 1786, advertised "Greek, Latin and English Languages taught grammatically." Tolman, Hist. of Ed. in R. I., 35.

Apparently the best way to interpret an expression like this is to believe that grammatical instruction in the English language stands in exactly the same relation as grammatical instruction in the classical languages.

The Trenton, N. J., grammar school, in 1789, gave a certificate under the seal of the corporation "to such scholars as shall have studied the English language grammatically." In 1792 the price of tuition was put at \$3 a quarter "for the English School and English Grammar," and in 1817 the trustees recommended the use of "Lindley Murray's system of teaching the English Language." Murray, Hist. of Ed. in N. J., 126.

A suggestive item indicating the way in which grammar spread is found in the story of John Howland, father of the movement for public schools in Rhode Island. Appointed by the city of Providence to draw up rules for the first schools established under the new law, 1789, he went to Boston and there procured a copy of the rules establishing the new school system of 1789 and secured also a list of the textbooks used under that act. Howland says: "Up to this time I had never seen a grammar . . . but observing The Young Ladies Accidence (Caleb Bingham's elementary grammar, Boston, 1785) was used in the Boston schools, I sent to the principal bookseller in that town, and procured one hundred copies for ours. The introduction of Grammar was quite an advance in the system of education as it was not taught at all except in the better class of private schools." Powell, Hist. of Pub. Sch. Sys. in R. I., 17.

had been grammar; the term grammar, the methods of teaching grammar, were ingrained. Latin grammar had stood for the next step above reading and writing the vernacular. When, therefore, the advocates of a practical English training found English grammar in Dilworth and other texts, what was more natural than that they should seize upon it as a suitable substitute for the next step above reading and writing and spelling? English they found reduced to the same accident as Latin; English rules were to be learned as the Latin; textbooks informed them on title pages that grammar was the art of speaking and writing the English language correctly, and this was their laudable desire for their children; here is a suitable setting in the vernacular program for grammar as the basic study. This conviction made its way into legal sanction for English and English grammar in the last decade of the eighteenth century.

2. THE FLOOD OF TEXTBOOKS AFTER 1784.

In the preceding chapter the number of textbooks available for instruction in grammar before 1784 was shown to have been very insignificant. With the exception of Dilworth's, primarily a speller, certainly no single book was available in a large number of copies. Therefore nothing is more effective in establishing the rapidly rising popularity of the new subject after the Revolution than the flood of grammatical textbooks which began to pour from the American press.

Even before the State laws at the end of the century paved the way for a higher order of instruction in English these textbooks in grammar began to appear. It is significant that in 1783 Noah Webster, the dean of American textbook writers, opened in Hartford, Conn., a rhetorical school for the express purpose of teaching the English language. It was here that he laid the foundation for his first grammar, Part II of "The Grammatical Institute of the English Language."²⁶ In Hartford also was framed, in 1799, the first State-wide act specifically mentioning instruction in "the rudiments of English Grammar." It is significant that this was the exact wording of the subtitle of Webster's second grammar, published in 1790, "The Little Reader's Assistant. Rudiments of English Grammar, Being an introduction to the Second Part of The Grammatical Institute." This, too, was published in Hartford.²⁷ Of course, there is no certainty of causal relation between Webster's instruction and his books and the Connecticut law of 1798.

However that may be, Webster's "Plain and Comprehensive Grammar," of 1784, was the first American textbook on the subject to attain

²⁶ Evans, *op. cit.*, 8, 105.

²⁷ Love, *Col. Hist. Hartford*, 270.

wide circulation. Before 1792 it had passed through at least 10 editions.²⁸ By 1807²⁹ this book, together with his three other treatises on grammar, although by far less popular than his "Grammatical Institute," enjoyed a wide circulation before Murray appeared in 1795. Webster's success appears to have attracted other American writers into the field at once, since at least 17 other works on grammar appeared before 1795.³⁰

Eleven of these 17 textbooks were unsuccessful, apparently none of them enjoying more than two or three editions, including Kenrick's, 1784; Mennye's, 1785; Anonymous, 1789 (3d ed.); Ussher's, 1790; Hutchins's, 1791; Humphries's, 1792; Tichnor's, 1792; Miller's, 1795; Carroll's, 1795; and Dearborn's, 1795. Of the 17, two were Webster's books mentioned above—"The Rudiments," 1790, and "The Young Gentleman and Ladies Accidence," 1792. Harrison's, 1787, was an English text reprinted in Philadelphia³¹ and in its ninth American edition before 1812; Ussher's, 1790, was also an American edition of a London book of 1787³² and had its third American edition in Exeter, N. H., in 1804.³³

Of the 17 books antedating Murray's (between 1784 and 1795) there remain two which attained relatively wide use in American schools before Murray's grammars appeared. Of these, the less important was Caleb Alexander's "A Grammatical System of the English Language," Boston, 1792. It passed through at least 10 editions before 1814.³⁴

Bingham's little elementary book of 45 pages appeared in Boston in 1785 and in a very few years leaped into popularity in that city and elsewhere. It was printed in at least 20 editions before 1815;³⁵ 100,000 copies were sold.

²⁸ Webster says: "I published a grammar on the model of Lowth's; . . . this work passed through many editions before Murray's book appeared. . . . I determined to suppress my grammar; . . . a new work appeared in 1807." Webster's Dictionary, 1828, preface, 3. Of this book Evans lists 10 editions before 1792, the first in 1784 (Evans, 6, 837), the last in 1792 (*ibid.*, 8, 382). The number of editions was large. The writer, for example, is using the sixth Connecticut edition, 1800, and the book was published by firms in both Boston and Philadelphia, 1790 and 1787, respectively. Evans, 8, 104, and *ibid.*, 7, 183. In both places there were several editions before 1800.

²⁹ Webster's second grammar, "The Rudiments," 1790, passed through six editions in the first two years, in Hartford, Albany, Boston, and Northampton. Evans, *op. cit.*, 8, 105; 8, 233. His third book appeared in 1792, published anonymously under the title "The Young Gentleman and Ladies Accidence, a Comprehensive Grammar of the English Tongue," in Boston. The 1807 text was "A Philosophical and Practical Grammar." His last grammatical treatise appeared as late as the year 1831, "An Improved Grammar of the English Tongue," Barnard, *Am. J. of Ed.*, XV, 569.

³⁰ See Appendix A.

³¹ Evans, *op. cit.*, 7, 121.

³² *Ibid.*, 8, 98.

³³ *Am. Jour. of Ed.*, XV, 565.

³⁴ *Ibid.*, XIII, 212; Evans, *op. cit.*, 8, 242.

³⁵ *Ibid.*, 218. The writer uses the nineteenth edition, Boston, 1813; the name Martha Stebbins appears on the flyleaf.

Bingham, a graduate of Dartmouth, 1782, had opened a private school for girls in Boston in 1784 and had there begun what has been called the first pretentious effort to teach English grammar in that city.³⁶ This statement ignores the earlier efforts to teach grammar, some of which, as we saw above, antedated 1775, either through ignorance of their existence or because they were insignificant as compared with Bingham's. At any rate, "The Young Ladies Accidence" was the result of Bingham's work in this school. It is interesting to remember that Noah Webster published anonymously in Boston, in 1790, an elementary book of approximately the same size as Bingham's under the name "The Young Gentleman and Ladies Accidence." Bingham, in 1789, accepted a position in the reorganization of the Boston schools,³⁷ and his grammar was adopted by vote of the board as the official text in the writing schools.³⁸

Of Webster and Bingham, William B. Fowle, editor of the *Common School Journal*, says:

No two men ever exercised more influence over the schools of this country. . . . Webster's Grammar was but little used compared with Bingham's; but his spelling book was far more extensively used. . . . The two authors divided the field between them.³⁹

Neglecting now the reproduction of grammars which we have mentioned as preceding 1784, we find 17 entirely new books in the field appearing in America before Murray's was introduced. Of these 17 certainly no fewer than 50 editions had been published within the decade before 1795. We may conclude, first, that the impending flood of grammars had begun to appear, and, second, that Brown is in error in maintaining that "Lindley Murray's Grammar, published in 1795, gave the first definite direction to this department of study."⁴⁰

But the grammars of Webster, Bingham, and the rest were insignificant in their influence compared with the unexampled popularity of Lindley Murray's, beginning shortly after 1795. This is the Lindley Murray whom we saw as a boy enrolled in the English school of the Academy and Charity School of Philadelphia in 1754.⁴¹ On both sides of the Atlantic this man's productions were reprinted literally hundreds of times and were copied and abridged at least a score of times by other authors. His most famous text was "English Grammar, Adapted to the Different Classes of Learners," York, England, 1795.⁴² He also prepared an "Abridgement of English Grammar,"

³⁶ Wm. B. Fowle, *Barnard's Am. Teachers and Ed.*, 70.

³⁷ *Ibid.*, 57.

³⁸ Jenks, *op. cit.*, 228.

³⁹ C. S. J., 1850, 74.

⁴⁰ Brown, *op. cit.*, 234.

⁴¹ See Chap. III, p. 54.

⁴² Barnard, *op. cit.*, XV, 775.

1797; "An English Grammar, in Two Volumes," 1814, 2d edition; and "English Exercises," published first before 1802.⁴³

An 1812 edition of the first book asserts that 35,000 copies of his larger book and 50,000 of his "Abridgement" were being sold annually in America. In 11 years the "English Grammar" passed through 21 editions in England and twice that number in America, while the "Abridgement" had had 20 editions in England and 30 in America. Murray's "English Exercises" were published frequently, and his larger grammar had its fifth edition in New York in 1823.⁴⁴ The larger books were adopted by many of the colleges in both countries. It is asserted that his grammatical texts totaled over 120 editions of 10,000 copies each on the average; that more than 1,000,000 copies of his books were sold in America before 1850.⁴⁵

But Murray's influence can not be estimated by his own books alone. At least 12 men prepared and published editions or abridgements of his various works. Among them may be mentioned Bullard, 1797, tenth edition, by 1817; Flint, 1807, sixth edition, by 1826; Lyon, 1811, fourteenth edition, by 1821; Pond, 1829, eighth edition, by 1836; Alger, 1824, fourth edition, by 1846; Fisk, 1821, third edition, by 1824. In this list are included also Russell, 1819; Booth, 1819; Cooper, 1828; Putnam, 1825; Miller, 1823; Blair, 1831; Bacon, 1818; and Cheesman, 1821, third edition.⁴⁶ In other words, a very conservative estimate of the total number of Murray's grammars, including his own and his followers' before 1850, is 200 editions, totaling between 1,500,000 and 2,000,000 copies.

Some idea of the rapid rise of grammar after 1784 may be gained by examining the distribution of the 301 grammars written by Americans and printed in America before 1850.⁴⁷ Distributed by decades they are: 1760-1770, 1; 1771-1780, 5; 1781-1790, 9; 1791-1800, 18; 1801-1810, 14; 1811-1820, 41; 1821-1830, 84; 1831-1840, 63; 1841-1850, 66; total, 301.⁴⁸

It is to be remembered that each unit in the foregoing represents a new author or an entirely new book by an earlier author. As in the case of the Murray grammars, we have seen the very large number of editions issued. In other words, during the decade 1821-1830, in addition to the 84 new books, many of which were printed several times, there were also published at the same time a very large number of editions of books whose first editions had preceded 1821.

The above indicates that the desultory and scattered beginnings of English grammar before 1775 sowed the seed which, after the Revo-

⁴³ Ibid., 776.

⁴⁴ Ibid., 775.

⁴⁵ Goold Brown, *Am. Ann. of Ed. and Ins.*, 1832, 584.

⁴⁶ Barnard, *op. cit.*, 775-6.

⁴⁷ This catalogue is omitted from this volume; Appendix A has list of grammars to 1802.

⁴⁸ Includes English books reprinted in America up to 1800.

lution, began very rapidly to ripen into a harvest. The number of new textbooks alone for the entire period averaged more than four a year, and in the decade between 1821 and 1830 more than seven a year.

Only a rough estimate of the total number of editions can be made; many of the textbooks reached large circulation. Among the more popular may be mentioned Comly's, 1804, which reached its fifteenth edition in 1838; ⁴⁹ Greenleaf's "Grammar Simplified," 1819, its twentieth edition in 1837; Samuel Kirkham's "An English Grammar in Familiar Lectures," 1823, its thirty-sixth edition in 1834, its fifty-third edition in 1841; ⁵⁰ Parker's "Progressive Exercises," 1823, primarily a composition book, attained its forty-fifth edition in 1845. Bullion's "Practical Lessons in English Grammar," 1844, reached its thirteenth edition by 1851; William H. Wells's "School Grammar" was in its twentieth edition in 1854; and in five years Peter Bullion's "Analytical and Practical Grammar," of 1849, attained its thirty-fifth edition.

A modest estimate, then, of the total number of editions attained by the leading grammarians, including Murray and his followers, is 400. Others were frequently reprinted; for example, Alexander's, 10; Jandon's, 18; Brown's, 10; Hull's, 7, etc. Even estimating that many had only one edition, the total number of American editions of grammars before 1850 was in the neighborhood of 1,000.⁵¹

Still more difficult is it to estimate the number of copies turned out in these 1,000 editions. The number of volumes printed in a few editions is known. As early as 1772 and 1787 editions of 10,000 copies of Dilworth's "New Guide" were issued. This is hardly a fair criterion, however, because Dilworth's included three textbooks in one and was without serious competitors. In 1766 the firm of Franklin & Hall was preparing an edition of Dilworth's consisting of 2,000 copies.⁵²

One of the most used early texts was Bingham's "Young Ladies' Accidence." Of this the 1792 edition included 4,000 copies.⁵³ It has been asserted that this book passed through 20 editions of 5,000 copies on the average, aggregating 100,000 copies, before 1820.⁵⁴ Kirkham affirmed, in 1837, that his book was selling at the rate of 60,000 a year.⁵⁵ In 1829, after being only six years off the press, Kirkham's book was selling at the rate of 20,000 a year.⁵⁶

⁴⁹ The evidence as to the number of editions is taken from Barnard's list of American textbooks in *Am. J. of Ed.*, XIII, XIV, XV.

⁵⁰ Barnard refers to a one hundred and tenth edition. *Op. cit.*, XIV, 736; also Gould Brown, *Gram. of Gram.*, 28.

⁵¹ The actual count of known editions of books mentioned in the catalogue previously referred to is 961. The evidence is acknowledged to be very incomplete. See Barnard's lists, *Am. J. of Ed.*, XIII, XIV, XV.

⁵² Evans, *op. cit.*, 4, 52, 314, and 7, III.

⁵³ Evans, *op. cit.*, 8, 257.

⁵⁴ Small, *Early N. E. Sch.*, 107; also Barnard, *op. cit.*, XIV, 212.

⁵⁵ Knickerbocker Mag., Oct., 1837.

⁵⁶ Brown, *op. cit.*, 28.

If we may assume that 5,000 copies is a fair average for each edition, then approximately 5,000,000 copies of grammatical textbooks were printed in America by 1850. In other words, two editions for every large city were issued by that date.

3. THE EXTENT OF INSTRUCTION IN GRAMMAR IN REPRESENTATIVE STATES, 1800-1850.

NEW YORK.

English grammar was a part of the curriculum of the academies chartered by the regents of the University of New York from 1784, the year of its beginning. Regents' reports for the years 1804 to 1807, based on data obtained from the individual reports made by the academies, show that during these years English grammar was taught on a par with Latin grammar.⁵⁷

Each year special mention is made of English grammar, together with other branches usually considered parts of the English curriculum, as distinguished from the Latin. Indeed, they are mentioned in a larger number of academies than is the curriculum of the "dead languages."⁵⁸

The academies have more significance than appears at first thought. After 1821 the academies of New York were regarded as a source of supply of teachers for the common schools of the State. In that year the regents said: "It is to these seminaries that we must look for a supply of teachers for the common schools."⁵⁹ In 1827 and succeeding years recommendations to this effect were repeated to the legislature by the regents, with pleas for increased appropriations. In 1834 the legislature passed the desired law.⁶⁰ In consequence the regents declared that no person should be admitted to the teachers' department until he had passed such an examination as to entitle him to be

⁵⁷ The following table is taken from Hough's Hist. and Statis. Rec., Univ. of New York, 1784-1884, 421

Studies.	1804		1805		1806		1807	
	Acade- mies.	Pupils.	Acade- mies.	Pupils.	Acade- mies.	Pupils.	Acade- mies.	Pupils.
Reading, writing.....	14	480	10	205	10	208	18	631
English grammar, arithmetic.....	16	429	10	228	10	312	19	649
Mathematics, bookkeeping.....	12	123	7	36	7	51	15	134
Dead languages.....	15	213	9	184	10	130	18	214
Logic, rhetoric, composition.....	6	101	4	48	4	38	17	97
Moral philosophy.....			1	1	2	14	3	22
Natural philosophy.....			1	1	3	14	4	36
French language.....	4	38	1	1	.....	.....	4	16

⁵⁸ This term was upon the printed blank sent out by the regents during the four years named.

⁵⁹ Hough, op. cit., 527.

⁶⁰ Ibid., 536.

considered a scholar in the higher branches of English education, the first specified subject of which is the English language.⁶¹ By 1837, 374 persons were enrolled in these teachers' departments.⁶² After 1836 the total enrollment in the academies increased at the rate of nearly 1,000 students a year, reaching the number of 20,920 in 1852.

Consideration of the textbooks used by the academies between 1832 and 1850 shows that the Murray grammars gradually disappeared.⁶³ Kirkham's book does not reach its height until 1840; then it begins to disappear, while Brown's gradually increases in popularity and the new books of Weld, Wells, and Greene come to the fore. Greenleaf's has meantime sunk into insignificance. Bullion's books were "The Principles of English Grammar," Albany, 1834, which reached its fourteenth edition in 12 years; "Practical Lessons in English Grammar and Composition," New York, 1844, thirty-third edition in seven years; two minor works, and, finally, "Analytical and Practical English Grammar," New York, 1849, which attained its thirty-fifth edition in six years.⁶⁴ Wells's, Clark's, Weld's, and Greene's books belong to a new generation of textbooks. These we shall see in a later chapter originating an entirely new conception of the nature and functions of grammar and the methods of teaching it.⁶⁵

61 Ibid., 539.

62 Ibid., 546.

63 *Textbooks in grammar, New York academies, 1836-1852—Number of academies using various texts.*

[Compiled from Annual Reports of Regents of State of N. Y., 1837-53.]

Year.....	1836	1837	1838	1839	1840	1841	1842	1843	1844	1845	1846	1847	1848	1849	1850	1851	1852
Total number of academies reporting.....	69	74	106	119	127	131	142	149	146	153	155	156	156	161	166	168	170
Number of students.....	6,056	6,391	7,070	8,892	10,168	10,560	11,977	11,699	12,257	13,481	13,998	14,262	15,043	16,514	17,912	19,552	20,920
Grammars:																	
Murray.....	18	15	14	11	10	9	6	6	5	2	2	1	1	1	1	2	1
Kirkham.....	38	45	58	56	61	54	54	51	39	33	37	33	25	22	15	17	9
Brown.....	20	27	37	36	40	47	54	71	73	69	67	75	71	72	72	66	68
Smith.....	24	25	40	46	53	48	52	56	52	48	40	35	29	24	22	21	22
Bullion.....	4	7	10	8	8	13	21	37	47	48	52	53	49	45	50	60	55
Webster.....			1	2	6	3	4	5	6	3	3	3	3				
Spencer.....																7	5
Greenleaf.....		3		3	3	3	3	4	4	3	2	2	1	1	1	1	1
Wells.....											3	8	15	18	15	15	13
Clark.....													6	7	7	8	10
Weld.....													3	8	21	21	19
Greene.....													1	2	5	7	4
Scattering.....	2		2	7	5	3	1	5	9	10	9	10	8	11	14	16	11
Total grammars used..	106	122	162	169	186	180	195	247	235	216	225	220	212	211	213	241	218

64 Barnard, op. cit., XIII, 221.

65 See Chap. VI, p. 152.

Turning now to the common schools of New York, as distinguished from the academies, we find that the reign of the Murray books reached its height about 1833.⁶⁶

The second book, reaching its height of popularity by 1839, is Kirkham's "English Grammar by Familiar Lectures," 1825, of which Barnard lists editions up to the forty-ninth, all published in New York before 1840.⁶⁷ Then follows Gould Brown's "The Institutes of English Grammar," New York, 1823. The fourth author is Roswell Smith, whose two works were "Intellectual and Practical Grammar on the Inductive System," Providence, 1829, and "English Grammar on the Productive System," Boston, 1831. Next comes Jeremiah Greenleaf, whose "Grammar Simplified," New York, 1829, reached its twentieth edition in 1851.⁶⁸

Detailed discussion of the significance of the domination of the Murray books, apparently reaching their height in New York about 1833, and of the almost meteoric rise of Kirkham contemporaneous with the passing of Murray, is reserved for another chapter⁶⁹ on methods of teaching. Of interest here is the comparison of the amount of grammar being taught during this period. County officers almost without exception report that four subjects are taught in all towns—reading, spelling, arithmetic, and grammar. The table on page 85 shows the three most widely used textbooks in the counties of New York of these three subjects, in addition to grammar.⁷⁰

In each subject there seems to be one book which goes far toward monopolizing the field. In grammar, honors for the period are fairly well distributed between two, and the two together have a distinct

⁶⁶ *Textbooks in grammar, New York Public Schools, 1826-1839—Number of towns using various texts.*

[Compiled from Annual Rept. Supt. Common Schls., N. Y., 1830-1840.]

	1826.	1829.	1831.	1832.	1833.	1835.	1836.	1837.	1838.	1839.
Grammars:										
Murray.....	389	472	466	462	459	373	294	267	209	177
Kirkham.....	.....	28	72	111	179	331	371	382	427	468
Brown.....	.....	3	.....	17	18	21	31	43	60	.....
Smith.....	.....	.....	.....	.....	7	20	31	63	102	.....
Greenleaf.....	35	76	88	96	93	61	46	25	28	23
Murray Introd.....	14	20	17	12	7	6	5	3	.....	.....
Murray Sequel.....	.....	4	.....	.....	13	9	5	10	4	.....
Other books:										
English Reader.....	434	584	547	543	563	516	486	431	.....	414
Daboll's Arithmetic.....	349	473	469	472	465	500	360	457	.....	455
Webster's Speller.....	302	417	400	433	418	332	265	227	.....	470

⁶⁶ Barnard, op. cit., XIV, 763.

⁶⁷ Ibid., XIII, 639.

⁶⁸ See Chap. VI, p. 134.

⁷⁰ Textbooks Used in New York, 1827-31. Summary from Reports of Supt. Com. Sch., N. Y., reprinted A. J. of Ed. and Ins., 1832, 378.

advantage over Daboll's Arithmetic. By 1839 Kirkham alone surpassed all other textbooks except Webster's Speller, which for some reason shows an unusual advance that year.

Books.	Towns (1827).	Towns (1830).	Towns (1831).
English Reader.....	434	584	547
Daboll's Arithmetic.....	349	473	469
Murray's Grammar.....	389	472	466
Webster's Speller.....	302	317	400
Testament.....	168	216	200
Woodbridge's Geography.....	110	309	412
Willet's Geography.....	117	120	121
Morse's Geography.....	108	98	72
Adams's Arithmetic.....	91	96	102
Pike's Arithmetic.....	80	61	46
Cobb's Geography.....	59	209	240
Greenleaf's Grammar.....	35	76	88
History of the United States.....	6	33	52
Tyler's History.....	4	9	6
Colburn's Arithmetic.....	1	8	26
Kirkham's Grammar.....	0	28	72

An idea of the proportion of pupils studying grammar may be obtained from facts a few years later. In 1842, out of 173,384 pupils, reported from 43 counties, 28,119 were studying English grammar.⁷¹ In 1846, of 227,760 pupils in winter schools, 51,484 were reported as studying grammar, and of 211,747 in summer schools 32,289 were studying the subject.⁷² In 1847, of 47,833 pupils in summer sessions 39,846 were studying grammar.⁷³ In round numbers, between 15 and 20 per cent of the total number of pupils were studying grammar in the common schools of New York as the middle of the century approached.

MASSACHUSETTS.

The Massachusetts law of 1826, amended in 1837 and 1839, required "in every town containing fifty families [extended in 1839 to 'every town in this commonwealth']⁷⁴ . . . one school for the instruction of children in orthography, reading, writing, English grammar, geography, arithmetic, and good behavior." Horace Mann, secretary of the board of education, in 1838 interpreted this law to prescribe what he calls "minimum literary qualifications of teachers"; that is, they "must be competent to teach the various subjects named."⁷⁵

Moreover, the law of 1835 required the school committee of every town to submit annual school returns containing replies to 11 definite

⁷¹ Ibid., 1843, 7.

⁷² Ibid., 1847, 18.

⁷³ Ibid., 1848, 81.

⁷⁴ Acts and Resolves, Mass., 1839, 22.

⁷⁵ Mass. Sch. Rept., 1838, 59.

Mann is very careful to emphasize the point that it is strictly lawful for districts to employ teachers more highly qualified, "who are able to teach the required branches better, because they are masters of higher ones—who, for instance . . . can teach English grammar better, because familiar, from the study of other languages, with the principles of universal grammar."

inquiries, of which the seventh was, "What are the Books in general use, specifying Spelling Books, Arithmetics, Grammars, Geographies, Reading and other Books?"⁷⁶ This provision was in force until 1841.⁷⁷

Pursuant, then, to this series of acts the first four annual reports of Mann, 1837 to 1840, inclusive, contain these data, as reported by the separate town school committees.⁷⁸

Concerning the status of grammar in Massachusetts between 1837 and 1841, several conclusions may be reached. The law requiring grammar was obeyed in letter at least. Only four towns did not report the subject in their curricula; in addition, only six towns failed to make any report. Almost all the towns reported at least one textbook in grammar. Roswell Smith's "Inductive" and "Progressive" grammars were by far the most popular, with gradually increasing numbers; Murray's followed in decreasing popularity. In Worcester County, Pond's Murray monopolized the field, showing the comparatively local popularity of the Worcester author. Of the 35 towns reporting Pond's as in use in 1837, 23 were in Worcester County and 8 in the neighboring county of Franklin. About one-fifth of the towns reported more than two grammars; some towns—Pittsfield, for example—reported as many as five textbooks in use.⁷⁹

The larger towns only, like Boston⁸⁰ and Dorchester, used separate

⁷⁶ Laws Com. Mass., XIII, 509.

⁷⁷ Acts and Resolves, Mass., 1841, 345.

⁷⁸ *Towns naming English grammar in Massachusetts.*

[Compiled from School Returns, 1838, 1839, 1840, 1841.]

Year.....	1837	1838	1839	1840
Number of towns.....	298	295	224	307
Smith's.....	208	215	224	237
Murray's.....	104	98	84	54
Putnam's Alger.....	19	18	17	15
Pond's.....	35	36	36	41
Greenleaf's.....	19	17	15	9
Brown's.....	11	12	11	13
Frost's.....	13	13	12	12
Ingersoll's.....	9	10	11	9
Kirkham's.....	7	7	7	4
Parker's.....	13	17	26	20
Webster's.....	1	1	2	3
Scattering.....	10	12	15	14

⁷⁹ Concerning the great variety of textbooks in all subjects, Mann reported that in 1837 there were in use in Massachusetts 110 different readers and spellers, 24 grammars, 22 arithmetics, 20 geographies, 9 books of diction, 3 chemistries, 5 geometries, 2 compositions. A. A. of Ed. and I., VII, 101.

⁸⁰ In 1840-41 the Boston school system embraced 1 Latin grammar school, 1 English high school, 13 grammar and writing schools, and 95 primary schools. Bost. Sch. Rept., 1841, 3. Regulations prescribed for the grammar schools (four-year course), in Class III, Murray's "English Grammar," abridged by Alger, or Parker and Fox's "Progressive Exercises"; Class II, the same continued and Foot's "Exercises in Parsing"; Class I, the same continued, together with composition and declamation. Ibid., 16. For admission to the English high school an examination in grammar was necessary; for the first year of high school a review of grammatical texts of the lower schools was prescribed, while "the several classes shall be instructed in grammar." Ibid., 20.

textbooks in parsing and composition. Mann says that only two schools had separate instruction in composition. Nevertheless, we see that increasing use of Parker's "Progressive Exercises in Composition" indicated that the latter subject was encroaching upon the field of formal grammar.⁸¹

The overwhelming preponderance of Smith's books, only six years off the press, denoted a rapid departure from the Murray type. To be sure, Pond's, Putnam's, and Alger's were nothing but modifications of Murray's; but even adding the towns using the three to the towns using Murray's a total of 159 towns in 1837 is still far short of the popularity of Smith's "Productive Lessons." Out of 298 towns reporting, 208 used Smith's book,⁸² many of them in the grades immediately above the primary, usually called grammar grades. Private schools and academies also used it.

This was the period of the extreme popularity of Kirkham's book in New York, but naturally we do not find the grammars of New York very widely adopted by the schools of Massachusetts.

The records of 1840 show a remarkable increase of schools breaking away from the Murray type of instruction.⁸³ Only 54 towns, as compared with 104 in 1837, still kept the Murray, while the Putnam and Pond merely held their own. Very many towns which in 1837 had reported the use of both Smith's and Murray's, in 1840 reported the former alone.

While on the whole the law requiring the teaching of grammar was generally obeyed, there is frequent testimony that it was studied with reluctance and even open opposition. For example, the Provincetown committee reported: "Grammar has been attended to very indifferently, in our town schools, for all past time. There are but few scholars who study it at all, and few indeed who have made much proficiency in it."⁸⁴ In the same year the Westport school officials asserted:

As there are some schools in which grammar has never been taught . . . and there are few or none who wish to pursue it . . . for these reasons the committee has been urged to grant certificates to teachers deficient in grammar.⁸⁵

VERMONT.

Vermont and New Hampshire present much the same relative emphasis on grammar between 1840 and 1850. Especially frequent is the complaint against the multiplicity of textbooks. The State superintendent of Vermont reports, in 1848, that several conventions of

⁸¹ Mann, *op. cit.*

⁸² See Chap. IV, p. 86.

⁸³ *Ibid.*

⁸⁴ Mass. Sch. Ret., 1843, 271.

⁸⁵ *Ibid.*, 252.

county superintendents had recommended uniform textbooks. The grammar chosen was William H. Wells's.⁸⁶ English grammar was included, according to the State official, "among the usual branches."⁸⁷ Superintendents of various counties report "Wells' grammars in most schools,"⁸⁸ while the State superintendent thinks that the acquaintance with grammar acquired is "very slight."⁸⁹ "Teachers are very poorly prepared."⁹⁰

NEW HAMPSHIRE

In his section on schoolbooks the school superintendent of New Hampshire, in 1846, makes a typical comment:

In the days of Pike's Arithmetic, and Murray's Grammar, and Webster's Spelling Book, there was no trouble in choosing books; there were none to choose from. Our difficulty consists mainly in determining which is best among so many that are good.⁹¹

One county official strikes even a new note when he recommends that "a portion of the time now devoted to grammar and arithmetic ought to be spent in the proper study of mankind."⁹²

OHIO.

Only an occasional reference concerning grammar finds place in the records of the State superintendent of Ohio during this early period. In 1838 one county official reported: "Reading, writing, arithmetic, geography, and grammar are taught in most schools."⁹³ Clerks of the county examiners complain of the almost utter incompetency of teachers, one saying that of 156 examined 53 were very poorly qualified and but 51 understood "either wholly or in part" geography, English grammar, and history. The county was compelled to accept them, else many schools would have been left without teachers."⁹⁴

Ten years later (1846-47) the status of grammar had improved considerably in Ohio. Reports of the State superintendent indicate that the subject was now regarded as an essential part of the common-school program. In the words of the State Teachers' Association of

⁸⁶ Rept. Supt. Com. Sch., Vt., 1848, 21.

⁸⁷ Ibid., 24.

⁸⁸ Ibid., 1849, 52.

⁸⁹ Ibid., 17.

⁹⁰ Ibid., 47.

⁹¹ Rept. Supt. Com. Sch. N. H., 1846-7, 18.

⁹² Ibid., 1848, Appendix, XXXIX.

⁹³ Rept. of Supt. Com. Sch., 1839, 52.

⁹⁴ Ibid., 58.

1847, “a substantial English education ought to be given every citizen of the State.”⁹⁵ In the “union schools,” Ohio’s term for common schools, divided into primary, secondary, and senior or grammar-school departments—

a thorough course of instruction in all the common English branches is pursued, and to this is added, when practicable, a high school, in which the higher English branches, mathematics, and the languages are taught.”

Ashtabula County reported that Smith’s Grammar was used in 99 schools, Kirkham’s in 49, Brown’s in 25, Noell’s in 16, Bullion’s in 13.⁹⁷ The following tabular statement from the same county gives indication of the number of pupils studying the subject as compared with the other English branches:

Summer schools, 1847.

Townships.	Number of schools visited.	Average attendance.	Number in spelling.	Number in arithmetic.	Number in grammar.	Number in geography.	Number in composition.
28	131	2,809	3,550	500	371	873	163
WINTER SCHOOLS.							
28	157	4,190	Per cent. 19	Per cent. 35	Per cent. 19	Per cent. 23	Per cent. 8

⁹⁵ Ibid., 34.

Seneca County also furnishes data on this point. The number of pupils studying spelling was 3,200; arithmetic, 3,540; grammar, 420; geography, 500.⁹⁹

Nevertheless, complaint was frequently made that teachers were incompetent to teach the subject.¹ Licking County so reports. In Fairfield County, of 110 licensed all were found competent to teach reading, writing, and arithmetic, only 64 were proficient in grammar, 62 in geography, and 10 in algebra.² In Knox County somewhat more than 50 per cent of the teachers were competent in grammar,³ and some districts refused to allow grammar and geography to be taught, the examiner adding: “If geography and grammar were added as legal qualifications of teachers, they would be required to understand them.” Ashtabula County reported fully all the examinations given pupils in the various classes. Eighteen minutes were allowed candidates to answer the following examination in grammar:⁴

⁹⁹ Rept. of Sec. of State, Com. Sch., 1848, 52.

¹ Ibid., 56.

² Ibid., 82.

³ Ibid., 47.

¹ Ibid., 42.

² Ibid., 40.

³ Ibid., 41.

⁴ Ibid., 20.

It is the mind that lives.

- *1. How many capital letters should be used in writing the above sentence?
2. Is the sentence simple or compound?
3. How much may be regarded as a simple sentence?
4. In this sentence what are the principal parts?
5. What is government in grammar?
6. What is meant by case?
7. What is meant by the conjugation of a verb?
8. Give the principal parts of the verb "to go."

These questions were given to 455 children of average age of 15; 42 per cent of the answers were correct. The highest average was 72 per cent for Morgan Township.⁵ The same attitude toward the curriculum was found in the State reports of Ohio in the decade 1847-1857 as in the preceding 10 years; the references, however, are scattering and unsatisfactory. Nevertheless, the fact that we invariably find grammar named whenever a complete curriculum is mentioned indicates that the subject was fully established. In Ashtabula County, in 1850, the distribution of pupils by studies was: Orthography, 2,174; reading, 6,005; mental arithmetic, 1,684; written arithmetic, 2,214; geography, 1,248; English grammar, 934; composition, 759.⁶ Coshoc-ton County reported 255 pupils in spelling, 181 in arithmetic, 180 in grammar, 13 in geometry.⁷ Holmes, Meigs, Preble, Rockland, and Scioto Counties reported grammar taught in all the districts,⁸ while Pike County affirmed—

the provision of the law requiring teachers to understand Geography and English Grammar should by no means be repealed. It is found that in this county teachers are as defective in Arithmetic as in Grammar; . . . the majority, yea, four-fifths of the applicants, are unqualified to teach anything more than the first principles.⁹

NORTH CAROLINA.

The private schools of North Carolina generally included English grammar in their curricula after 1800.¹⁰ Five schools before 1800 report grammar. Grove Academy, the earliest, in 1787 reported "twenty-five students under a master who teaches only the Latin and English grammar."¹¹ The trustees of New Bern Academy report the examination of pupils in the English language in 1794;¹² likewise,

⁵ Ibid., 21.

⁶ Ann. Rept. Sec. State, Com. Sch., 1851, 55.

⁷ Ibid., 63.

⁸ Ibid., 79, 96, 104, 107, 112.

⁹ Ibid., 103.

¹⁰ Data in this section are compiled from North Carolina Schools and Academies, 1790-1840, A Documentary History, by Charles L. Coon.

¹¹ Coon (op. cit., 75) cites Carr's Dixon Letters, 34, 35.

¹² Ibid., 50. New Bern Gaz., Jan. 4, 1794.

Fayetteville Academy announces that pupils excel in English grammar in 1800.¹³ in 1794 Wayne Academy began with emphasis in English, and a few years later the "fifth class . . . were examined in English Grammar from the verb 'to have' to syntax"; the sixth class "as far as the substantive"; the seventh "as far as the 'article,'" and the eighth class "to the verb 'to be.'" ¹⁴

The decade between 1801-1810 shows 18 schools specifically naming grammar. The following are typical statements: Wadesborough Academy, "English Grammar, Geography, . . . twelve Dollars."¹⁵ Caswell Academy employed an instructor "to teach the English Language grammatically."¹⁶ The Halifax Classical School was opened in 1807 "where he (the principal) taught the Latin & English grammatically. . . ." ¹⁷ The succeeding decade shows 25 academies and schools definitely mentioning the subject. In the Salisbury Academy Miss Elizabeth T. Harris was examined "on the whole of English Grammar, parsing, correcting false syntax, rules of punctuation, perspicuity, etc. . . . and she exhibited several specimens of Composition."¹⁸ In 1819 John Haasam came to Raleigh "as a traveling teacher of English Grammar." His announcement begins: "The Acquisition of English Grammar Rendered pleasing, expeditious and permanent."¹⁹ The decade of 1821-1830 shows 39 definite announcements of grammar; that of 1831-1840 shows 31 schools which give the subject a prominent place. One Edward Fowlkes, in 1831, announced of a certain school: "It is an institution in which the English Grammar is taught upon a completely new and successful plan in seven weeks, at seven dollars per scholar."²⁰

In all, 118 schools, of about 300 private institutions of which Coon has reprinted documents, were definitely teaching English

¹³ Ibid., 60. Raleigh Reg., Aug. 19, 1800.

¹⁴ Ibid., 634. Raleigh Reg., Oct. 9, 1818. The textbooks mentioned in these records are Murray's Grammar and Murray's Exercises. Among the books advertised in North Carolina during the period before 1810 appear also Webster's, Ashe's, Dilworth's, Priestley's, Lowth's, Aker's, Harrison's "Exercises in Bad English," Murray's "Exercises," Murray's "Introduction," Fisher's. Ibid., 769, 73, 74, 75, 77, 80, 86. After 1810 there appear in addition Alexander's, Garretson's "Exercises in Bad English," Greenleaf's, Ingersoll's, Comley's, Brown's, Boardman's. Ibid., 789, 95. In 1838 Turner and Hughes, of Raleigh, advertised "200 Smith's Practical Productive Grammar, 700 Murray's English Grammar well bound in leather and offered at a reduced price." Ibid., 798, Raleigh Reg., Mar. 12, 1838.

School officials were eager to secure good English teachers. Such advertisements appeared in the Raleigh Register between 1800-1810; also qualified "to teach English Grammar." Ibid., 800-4. From 1811-1820 there are cited seven similar advertisements. Thirty of the 40 advertisements and announcements cited between 1821 and 1840 concern teachers for English schools. Ibid., 813-820.

¹⁵ Ibid., 2. Raleigh Reg., May 9, 1803.

¹⁶ Ibid., 19. Raleigh Reg., Dec. 9, 1803.

¹⁷ Ibid., 175. Halifax Jour., Jan. 12, 1807.

¹⁸ Ibid., 363. Western Carolinian, Dec. 19, 1820.

¹⁹ Ibid., 521. Raleigh Reg., Aug. 27, 1819.

²⁰ Ibid., 558; The Star, June 30, 1831.

grammar before 1840. No direct evidence appears with respect to instruction in English grammar in the 172 other schools, and we can not therefore assert positively that instruction in this branch was given in any one of them. Yet it seems likely that some of these schools gave such instruction, because many of them do not announce their curricula, and almost without exception those schools which do include grammar in the documents studied. However, among the schools not listed very many announced "the English School," "the branches usually taught in English Schools," "the lower and higher branches of English," "all branches of English," "the ordinary branches of English," or used similar phrases. We may conclude that the private schools of North Carolina were very generally laying stress upon grammar before 1840.

4. THE STATUS OF GRAMMAR, 1850 TO 1870.

In spite of the fact that an enormous number of grammars were sold every year in the middle of the nineteenth century, they were used mostly in the intermediate and high schools of the larger and more prosperous towns, and at best only in a perfunctory way in the schools of smaller communities.

PENNSYLVANIA.

A body of data concerning the status of the common schools of Pennsylvania seems to bear out this conclusion for that State. In 1854 the legislature passed a law requiring instruction in grammar²¹ and obliged each county superintendent to submit an annual report to the superintendent of common schools.²² In the following year all but a few counties complied.

Examination of these reports shows that there is almost universal evidence of scarcity of good teachers; that many who applied to take the examinations were rejected; that many times teachers who were deficient in grammar and geography had to be accepted. Out of 50 counties 28 county superintendents comment on the difficulty of securing competent teachers of any subjects, 39 upon the incompetency of teachers applying for examination in grammar. For example, in Bucks County 270 teachers were examined; certificates were granted to 20 who were deficient in English grammar on their promise "that they would make themselves acquainted with this subject during the year."²³ In Bradford County "out of 500 teachers examined . . .

²¹ "It shall be the duty of each county superintendent to see that in every district there shall be taught orthography, reading, writing, English grammar, geography, and arithmetic. . . ." *Laws Com. Pa.*, 1854, 625.

²² *Ibid.*, 627.

²³ *Pa. Com. Sch. Rept.*, 1854, 25.

one-fourth fell below the standard required by law."²⁴ Center County was compelled to issue many certificates from which English grammar and geography were stricken out.²⁵ Especially suggestive is the statement from Clearfield County:

I find many who can go through the grammar and repeat every rule and conjugate every verb correctly and can not analyze and parse the most simple sentence.²⁶

The foregoing are fairly typical replies.

The superintendent of Adams County found that general opposition to the new school law lay in the requirement that English grammar and geography should be taught. He affirmed that "none of the parents wish their children to study English Grammar and Geography."²⁷ He allayed the opposition by explaining that the law required grammar in every county but not in every school. This is typical of many references to hostility toward the subject; very few counties report favorable instruction in the subject, and that in the academies and larger schools. All these facts lead to the inference that English grammar as such had little place in the large majority of the common schools of Pennsylvania. To be sure, the law was new. The relative emphasis upon grammar and other higher branches in New York at this period indicates the effects of 25 years of legal requirement of the branches in the latter State as compared with the absence of such requirement in Pennsylvania. In the latter the report of Indiana County states what seems to have been near the general truth:

A rough knowledge of spelling, reading, writing, and ciphering is deemed all sufficient, whilst a knowledge of grammar, geography, etc., is most heartily repudiated.²⁸

In short, the Pennsylvania reports show that the schools were by no means fitted to give good instruction in grammar. Thirty-nine counties report grossly inadequate instruction; 29 say they have to accept whoever applies; 20 complain of hopeless variety of textbooks and incompetent grading; 18 speak of decided opposition to grammar; 14 say that local inspectors, being unpaid, are unsatisfactory; 11 mention wretched buildings; only 3 reports are really commendatory, although many are optimistic concerning the ultimate effect of State aid, certification of teachers, and other new features of the law.

²⁴ Ibid., 19.

²⁵ Ibid., 38.

²⁶ Ibid., 47.

²⁷ Ibid., 4.

²⁸ Ibid., 15. The superintendent of Bucks County, in one school, saw 9 classes recite in the following order: One scholar in Swain's Reader; 12 in Frost's History; 1 in Emerson's First Class Reader; 1 in Comley's Reader; 1 in Emerson's Third Class Reader; 2 in Emerson's Rhetorical Reader; 1 in Comley's Spelling Book; 2 in The Primer; 2 in The A B C's. The same program was repeated in the afternoon. Ibid., 28.

NEW JERSEY.

The status of grammar in the common schools of New Jersey during the decade 1850 to 1860 may be seen by an examination of the reports of the State board of education for three representative years—1850, 1854, and 1860. The total number of references in these reports concerning the curriculum include statements from 12 of the 21 counties and from 19 different townships which specifically mention grammar. In 1850 Bergen County reports “grammar, history, arithmetic taught orally to young pupils” in Hackensack Township;²⁹ of 154 boys and 152 girls in Northampton Township, Burlington County, 66 were studying grammar,³⁰ and of 150 pupils, 50 were studying grammar in Southampton Township.³¹ The superintendent of Hunterdon County reports that a few pupils only study grammar.³² An interesting sidelight, indicating that in certain quarters the subject was regarded as the capstone of the common-school curriculum, is found in the following statement of the superintendent of Woodbridge Township, Middlesex County: “There are taught all the subjects usually taught in the schools, from the alphabet to English grammar.”³³ Of reports from 175 townships, in 1851, only five cited above speak of grammar. However, the subject is mentioned by every officer who mentions the curriculum at all.

The following table giving the distribution of pupils by subjects in seven districts of Wall Township, Monmouth County, is enlightening as showing the relatively small number of pupils studying grammar, which, as we have seen, was regarded as one of the higher branches in the common schools.³⁴

	District.							Total.
	1	2	3	4	5	6	7	
Number of pupils.....	40	81	50	61	68	40	92	432
Average attendance.....	20	42	30	36	40	25	42	235
Alphabet.....	1	9	4	6	5	1	5	31
Spelling.....	27	70	25	30	60	25	37	274
Reading.....	25	55	20	30	60	20	32	237
Writing.....	12	30	10	16	40	20	25	153
Arithmetic.....	12	12	14	15	30	15	15	113
Beyond division.....	10	4	6	10	20	7	6	63
Geography.....	4	3	4	8	8	4	6	35
Grammar.....	2	4	2	5	6	2	3	24
Defining words.....						7		7
Philosophy.....				1				1

In 1860, 205 townships in 21 counties show meager evidence as to grammar being a part of the curriculum, only eight townships referring definitely to it. Roswell Smith’s grammars predominate, and there is constant indication that the subject is taught as a higher

²⁹ Rept. State Supt., 1851, 32.

³⁰ Ibid., 41.

³¹ Ibid., 45.

³² Ibid., 63.

³³ Ibid., 85.

³⁴ Ibid., 1854, 127.

branch, only very few pupils pursuing it. The conclusion which must be reached is that grammar was but indifferently taught in New Jersey, only in the better common schools, with less than one-tenth of the pupils studying it. This is entirely consistent with the status of the subject in Pennsylvania during the same period.

NEW YORK.

The showing of New York for the decade in question is more favorable. The State was evidently far in advance of Pennsylvania and New Jersey.⁸⁵

In comparing with the adjoining States it needs to be remembered that the academies of New York are higher schools than the common schools considered in Pennsylvania and New Jersey. Data concerning the status of grammar in the common schools of New York are not available after 1839; but even as early as 1826–1839 the showing for grammar in common schools in New York far surpasses that of the two other States named even for 20 years later.⁸⁶

Regents' reports of New York, covering the condition of grammar for the period, 1865 to 1874, in the academies, show the complete passing of the grammars of the old guard (with the exception of Gould Brown's, Murray's, Kirkham's, Smith's, and Webster's). The newer grammars of the middle of the century have taken their place, as will be seen from the following table:⁸⁷

	1865	1866	1867	1868	1869	1870	1871	1872	1873
Brown.....	72	66	75	61	62	58	52	54	51
Smith.....	3	3	1	.....	.....	.....	.....	.....	.....
Bullion.....	24	20	26	30	30	35	30	35	35
Clark.....	55	56	58	53	45	34	36	34	34
Weld.....	17	13	14	10	10	6	7	6	5
Greene.....	13	9	7	13	12	12	17	21	25
Quackenbos.....	25	25	29	26	17	20	17	16	11
Karl.....	13	26	30	28	28	32	34	31	50
Swinton.....	.....	.....	.....	.....	.....	.....	.....	5	12
Scattering.....	4	4	4	5	3	4	7	6	7

⁸⁵ The following table continues the table on page 83 through the years 1850 to 1856, inclusive.

Year.....	1851	1852	1853	1854	1855	1856
Academies reporting.....	168	170	169	173	165	176
Number of students.....	19,552	20,920	22,670	22,778	18,051	20,860
Grammars:						
Murray.....	2	1	1	0	1	1
Kirkham.....	17	9	3	3	2	0
Brown.....	66	68	77	75	75	80
Smith.....	21	22	18	16	13	21
Bullion.....	60	55	52	53	54	54
Webster.....	.....	.....	1	5	1	.....
Spencer.....	7	5	6	7	5	4
Wells.....	15	13	14	10	5	6
Clark.....	8	10	9	12	11	15
Weld.....	21	19	19	21	18	14
Greene.....	7	4	3	4	2	7
Kenyon.....	.....	.....	5	2	2	2
Scattering.....	16	11	10	12	15	12

Compiled from Regent's Reports, 1852–1857, inclusive. The 1855 figures represent two-thirds of the year.
⁸⁶ See p. 84. ⁸⁷ Reg. Rep., 1876, 439.

The new grammars of Quackenbos and Kerl have attained prominence, and Swinton's "Language Lessons," of 1873, which was to revolutionize the teaching of the subject, is seen just entering the academies. The fact is significant that the total number of grammars reported is considerably diminished, even though the number of academies is increased. This means that the place of the subject in the curriculum has become more stable.

Some light can be thrown on the status of grammar in the academies during this period by reports of regents' examinations. The percentage of those passing in grammar is noticeably lower than in arithmetic, geography, and spelling, the three other subjects used.³⁸

OHIO.

. In Ohio, 1852, the 26 townships of Licking County taught English grammar.³⁹ That the instruction was largely perfunctory in some of the rural counties, at least, is evidenced by the superintendent of Pike County, who reported:

That our children should learn to read and write, and occasionally, in large towns and cities, to the highly favoured, may be added, by way of luxury, a little sprinkling of Geography and Grammar, answers almost universal custom.⁴⁰

That this man somewhat underestimated the universal custom is shown by the report of the State commissioner for the year 1856, summarizing the number of pupils instructed in the various branches. The total number of "unmarried" children of school age (5 to 21) in the State was 799,666; of these, 561,315 were enrolled in the schools; the average attendance was 322,643.⁴¹ The distribution of these by subjects is as follows:⁴²

	1856.	1857.
Penmanship.....	249, 002	271, 440
Mental arithmetic.....	82, 640	112, 744
Written arithmetic.....	166, 665	187, 290
Geography.....	90, 784	108, 270
English grammar.....	63, 414	75, 353
Composition.....	15, 201	21, 916
History	5, 824	6, 759
Algebra.....	5, 790	7, 644

³⁸ <i>Percentage of students passing in grammar in New York academies, 1866 to 1872.</i>							
	1866	1867	1868	1869	1870	1871	1872
Number examined.....	12, 939	12, 266	11, 780	11, 322	12, 286	13, 063	15, 442
Number passed.....	5, 306	5, 354	4, 861	3, 251	3, 276	4, 161	6, 118
Per cent passed.....	4. 1	8. 65	30. 97	28. 71	26. 66	31. 85	39. 61

Ann. Rept. Regt. Univ. N. Y., 89, 472.
³⁹ Rept. Sec. State, Com. Sch., 1852, 40. ⁴¹ Rept. of Sch. Comm., 1857, 86.
⁴⁰ Ibid., 51. ⁴² Ibid., 89.

	1856.	1857.
Rhetoric	404	929
Latin.....	675	1, 319
Greek.....	113	159
German.....	903	1, 320
French.....	180	250
Zoology.....	675	688

This table, indicating that approximately one-fifth of the pupils were studying grammar, seems to warrant the assertion that the subject was almost universal, including quite as large a percentage of pupils as in New York and Massachusetts. This conclusion must be qualified by two facts: First, undeveloped counties, like Pike ⁴³ and Gallia,⁴⁴ report that, with very few exceptions, reading, writing, and arithmetic are “all the pupils are expected to acquire”; second, there is frequent complaint that teachers are incompetent, especially in grammar and geography. In 1858 the State commissioner said: “As the chief of all causes of poor schools, *poor teachers* stands out. That one-half, or one-tenth (*sic*), even of the thousands of teachers in Ohio are in all respects what their profession demands no one can justly claim.” ⁴⁵

The status of English branches in academies of Ohio in this decade (1850–1860) may be seen in the reports of typical academies made to State officials: ⁴⁶

Academy.	Ancient lan- guages.	Modern lan- guages.	Higher English branches.
Seneca County.....	20	.....	150
Western Reserve.....	75	8	190
Pomeroy.....	22	.....	27
Gallipolis.....	12	20	40
Kingsville.....	65	37	142

NEW HAMPSHIRE

The status of grammar in New Hampshire schools in 1850–1852 is indicated by the report of the county commissioner of Rockingham County for the year 1851. The commissioner had been conducting a campaign against the multiplicity of schoolbooks and had succeeded in inducing his various town committees to recommend uniform books for the use of all the schools in their towns. He records, town by town, the grammars represented. Thirty towns report. Of these, 2 do not mention books recommended; only 1 other does not mention a grammar. Of the remaining 24 towns, preference is shown in 14 for W. H. Wells’s Grammar; in 7 towns for Roswell

⁴³ Ibid., 1852, 49.
⁴⁴ Ibid., 1856.
⁴⁵ Ibid., 1858, 61.
⁴⁶ Rept. State Com. Ed., 1858, 168, 67, 66, 61, 59.

Smith's "Productive Lessons," and in 6 towns for Weld's "New Grammar." As second choice (used in a few schools) 3 towns reported Wells's, 4 Weld's, and 6 Smith's.^{46a} The total number of towns in Rockingham County, in 1852, was 37, with 455 schools in operation.⁴⁷ Scattered references in reports from commissioners of other counties indicate that Rockingham is typical. In Carroll County the commissioner especially examined grammar classes.⁴⁸ In Cheshire County Institute a teacher of grammar was provided.⁴⁹ Sullivan County named a number of towns in which "grammar was better taught than it was last year."⁵⁰ In Grafton County the commissioner emphasized the "elements of grammar."⁵¹ In Coos County children of 12 were passing good examinations in grammar.⁵²

The report of the State commissioner of the following year (1852) indicates that the county commissioners, meeting at the capital, recommended a uniform system of textbooks, among them H. N. Weld's New Grammar and Dyer H. Sanborn's Grammar.⁵³ Several county commissioners endeavored to have grammar "taught understandingly,"⁵⁴ and occasionally there crept in a vigorous advocacy of composition as supplementary to grammar.⁵⁵ Cheshire County reported a large variety of grammars.⁵⁶

MICHIGAN.

In 1857 the superintendent of instruction of Michigan asked the officers of all the union schools⁵⁷ to furnish him information upon 12 points, one of which was the course of study pursued in the school. Replies from a number of schools, although very incomplete, enable us to determine the status of grammar in the curriculum. The normal grading appears to be reported in Dowagiac union school, divided into primary, grammar (or intermediate), and high school departments. Rudiments of grammar were begun in the grammar school (the fifth year of the pupil's school life), together with composition and declamation. The high-school department, beginning in the seventh year of school life, included grammar, composition, analysis of English sentence, declamation, and elocution.⁵⁸ The equivalent course is reported in Grand Rapids, Jonesville, and Ontonagon.⁵⁹ Ypsilanti, in the grammar department, used Clark's Primary Grammar, with declamations and compositions weekly; in the academic

^{46a} Rept. Comm. Sch. N. H., 1852, 61-7.

⁴⁷ Op. cit., 1853, 64.

⁴⁸ Ibid., 1852, 82.

⁴⁹ Ibid., 105.

⁵⁰ Ibid., 110.

⁵¹ Ibid., 121.

⁵⁷ A term embracing all the public schools in the various communities.

⁵⁸ Mich. Sch. Repts., 1857, 457.

⁵⁹ Ibid., 465, 7, 77.

⁵² Ibid., 133.

⁵³ Ibid., 1853, 29.

⁵⁴ Ibid., 94.

⁵⁵ Ibid., 96-7.

⁵⁶ Ibid., 118.

department, Clark's Grammar, English analysis, original and selected declamations, and compositions weekly.⁶⁰ Coldwater reported the same curriculum with different textbooks.⁶¹ Ann Arbor High School showed English grammar in its first year,⁶² while Adrian High School required an entrance examination in grammar, analysis, and simple rules for composition.⁶³

Neither the academies nor the common schools so far considered are in themselves sufficient to determine the status of instruction in grammar. We have seen that the common schools give but very limited and indifferent instruction in the subject and that the New York academies, looked upon as fitting schools for teachers, had special interest in grammar. There is available in convenient form information from the printed school regulations as to the status of the subject obtaining in a considerable number of cities of representative distribution throughout the Union. The regulations of New York City; Springfield, Mass.; New Haven, New Bedford, Boston, Chicago, St. Louis, Louisville, Philadelphia, and Cincinnati are studied particularly.⁶⁴

LARGER CITIES.

In the primary school (common, elementary, or district school in some cities), with from four to seven grades, the formal study of grammar was not begun. There is exception in the case of New Haven, where grammar is prescribed for the sixth and seventh grades of the common school. However, this city seems to have had no intermediate or grammar school. By 1866 Chicago had also adopted the twofold division—elementary and high schools—and grammar appears in the eighth, ninth, and tenth grades. The latter city announces, however, that "grammar shall be taught practically in all the grades in connection with composition." In the regulations of all the other cities noted a similar provision is made, either specifically or by implication. Eastern cities seem to lay great stress on oral grammar work in all grades except the first two. New York and Cincinnati have unique courses in "punctuation," running through all the primary grades. Cincinnati, insisting upon "practical" grammar for the first five grades, adds "and pupils in grade A (sixth)

⁶⁰ Ibid., 476.

⁶¹ Ibid., 440.

⁶² Ibid., 449.

⁶³ Ibid., 434.

⁶⁴ Data in Barnard's *Amer. J. of Ed.*, 1870, 469–518.

In the Cincinnati schools, 1860, pupils were distributed in the various branches of English as follows: High schools—English grammar, 174, rhetoric, 294, reading, 364, composition, 363, declamation, 199; intermediate schools—reading and orthography, 1,179, English grammar, 1,174, penmanship, 1,179, composition, 941, elocution, 204; in the district schools—alphabet, 4,632, English grammar, 421, composition, 463, elocution, 266. Common Sch. Cincin., 31st Ann. Rept., 9. The principal of the Woodward High School reported that "grammar is now well taught in the intermediate schools." Ibid., 57. The following year showed a total of 2,682 pupils in grammar, 3,616 in composition, 954 in elocution, 363 in rhetoric out of a total of 22,749 children enrolled. Ibid., 1861, 9.

shall be familiar with their textbook (in grammar) as far as mode." With this exception the fact seems to be that no formal grammar was taught in the first five years of school life, that it was rarely taught in the sixth year, and not often in the seventh. Provision for incidental instruction during these years is universal.

In the intermediate grades, usually called grammar grades, the subject reigned supreme. New York, after her six years in punctuation, apparently gave two years of relief, for formal grammar study does not appear until the third year of the grammar school. Not till the fifth year of the intermediate schools did textbook work in grammar begin, but it had been taught orally for the two years preceding. In the fifth year "English grammar commenced, with the use of textbooks, to include the analysis, parsing, and construction of simple sentences, and with such definitions only as pertain to the parts of speech." This type of teaching was continued for the two following years.

To summarize, New York began formal grammar in the ninth year of school, New Haven in the seventh, Cincinnati in the sixth, Springfield in the seventh, New Bedford in the eighth, Boston in the eighth, Chicago in the eighth, St. Louis in the sixth, Louisville in the eighth, Philadelphia in the eighth. The average for these representative cities was about the eighth grade.

As to the length of time given the study below the high school, New York assigned five years (two orally); New Haven, three years; New Bedford, two years; Cincinnati, three years; Springfield, three years; Boston, three years;⁶⁶ Chicago, three years; St. Louis, two years; Louisville, three years; Philadelphia, five years. The average time given, apparently, was three years. This does not consider informal

⁶⁶ Boston shows the normal arrangement of three schools, as follows:

Primary school. Six grades. No traces of formal grammar, but oral instruction in all grades. Grammar incidental.

Grammar schools. Four grades. Grammar in the last three grades, class No. 3 using Kerl's "Elementary English Grammar," class No. 2 using Kerl's "Elementary" or Kerl's "Comprehensive English Grammar," class No. 1, grammar. The last two classes have composition and, in the boys' school, declamation.

Girls' high school. Three grades. Entrance examination in grammar. Lowest class—grammar reviewed, analysis of language and structure of sentences, composition.

English high school. Three grades. Entrance examination in grammar.

"The several classes shall also have exercises in English composition and declamation. The instructors shall pay particular attention to the penmanship of the pupils and give constantly such attention to spelling, reading, and English grammar as they may deem necessary to make the pupils familiar with these fundamental branches of a good education."

The regulations of the English high schools for 1820, date of founding, required grammar in the lowest class, with composition, criticism, and declamation in all the classes. By 1836 grammar as a formal study had been dropped; for the first class, however, were prescribed "reviews of the preparatory studies in the textbooks authorized to be used in the grammar and writing schools," and the provision was that "the several divisions shall also receive instruction in spelling, reading, writing, English grammar, declamation, composition, and the French language." In the successive regulations of 1820, 1836, and 1852 we see the process of forcing formal grammar into the lower school and retaining incidental study of it in the high school, with entrance examination required.

study of grammar or collateral study in connection with composition either before or after the formal study. Philadelphia was the only city on the list requiring textbook study for five years.

The position of grammar in the high schools was as follows: In some cities an entrance examination or certificate of proficiency from the grammar school was required, as in New York and Boston; in some cities review courses were prescribed in the first year of the high school, as in Louisville, Philadelphia, and others; in still other cities grammar was designated as an incidental study in the high school—in all three grades of the Boston high school and in the last three grades in New Haven.⁶⁶

Further light upon the status of grammar in the high-school curriculum of 1867 is found in a study made from the official regulations of 29 cities published in 1870. The original study includes all the subjects mentioned in the statutes as being taught in the high school. The following table⁶⁷ indicates only the subjects pertaining to the vernacular:

Cities.	Spelling.	Reading.	English syno- nyms.	English litera- ture.	Rhetoric.	Compo- sition.	Decla- mation.	Gram- mar.
Baltimore.....		X		X	X	X		X
Boston.....	X	X	X	X	X	X	X	X
Cambridge.....		X	X	X	X			
Chicago.....				X	X	X		X
Cincinnati.....				X		X		X
Cleveland.....					X	X	X	X
Dubuque.....					X	X	X	X
Fond du Lac (Wis.).....		X		X		X	X	X
Hartford.....		X	X	X	X			X
Indianapolis.....					X	X		X
Lewiston (Me.).....				X	X			X
Louisville.....				X	X	X	X	X
Madison (Wis.).....		X			X	X	X	
Manchester.....				X	X	X	X	
New York.....		X	X		X	X	X	X
New Haven.....	X	X		X	X	X	X	X
Newark.....	X	X			X	X	X	X
Niles (Mich.).....		X		X	X	X	X	X
Philadelphia.....	X	X		X	X	X	X	X
Portland (Me.).....	X			X	X	X	X	X
Providence.....				X	X	X	X	X
Rochester.....					X			
Sandusky.....					X			X
San Francisco.....				X	X	X	X	
Springfield.....				X	X			
St. Louis.....				X		X		X
Terre Haute.....				X	X	X	X	X
Troy.....			X	X	X	X		X
Worcester.....		X		X	X	X	X	X

Spelling and English synonyms appear in the statutes of 5 cities, reading in 12, declamation in 17, English literature in 21, composition in 23, grammar in 23, and rhetoric in 27. However, the data are

⁶⁶ In St. Louis grammar was begun as a textbook study in the sixth grade of the district school; the first quarter to page 27; second, 46; third, 58; fourth, 75; continued in seventh grade, first quarter to page 100; second, 122; third, 164; fourth, review. The subject was then dropped until the first year of the high school, in the first year of which English parsing and analysis are prescribed.

In Louisville no grammar was shown in the four years of the primary department; in the intermediate department there was oral instruction based on the readers, in which the

ambiguous, because a number of the cities are listed in the above table as giving grammar whose educational statutes, printed in the same volume, do not require it. Among them are Boston, Chicago, and Cincinnati, which, according to the statutes, had grammar in the high school only as an incidental study; yet these cities are listed in the table as teaching grammar in the high school. This fact indicates the only inference that can safely be drawn from the table, namely, that 23 of the 29 cities prescribe grammar in some form, either (1) as a regular subject, supplementing a two or three year course in the intermediate schools, as in New Haven, or (2) as a review course, lasting one or two terms, as in New York, or (3) as incidental or supplementary work in connection with composition or rhetoric, as in Boston, Chicago, and Cincinnati.

pupils "repeat orally and in writing, in their own language, the substance of each lesson"; in the grammar department of three years "they shall be taught all the lessons in Butler's Large Grammar to syntax. They shall also be taught to parse words in simple sentences not found in the grammar." This is for the first year. In the second "the same . . . to prosody; to compare adjectives and adverbs, to decline nouns and pronouns and to conjugate verbs, in writing. They shall also be taught to parse all the parsing exercises in said lessons and to parse words in sentences not found in the grammar." For the third year Butler's grammar was prescribed complete. The girls' high school had English grammar and composition throughout the first year. The boys' high school seems to have had no grammar.

Philadelphia had no grammar in the four years of the primary or five years of the secondary departments. In the grammar-school department of five years the instruction was the most elaborate the writer has found. In the first and second years Hart's "Introduction" or Parker's through the nine parts of speech, including the simple rules of syntax; in the third year Hall's or Parker's introductory work completed and construction of simple sentences within the same limits; in the fourth year Hall's or Parker's English Grammar commenced and continued to the rules of syntax; parsing and construction of sentences and correction of false syntax; in the fifth year Hall's or Parker's completed and reviewed. Directions for teachers are: "The disputed points or matters far above the pupils' capacity should never be dwelt upon. The teacher's object must be rather to impart such a knowledge of the construction of the language as will enable the pupil to speak and write with a reasonable degree of correctness."

⁶⁷ Am. J. of Ed., 1870, 643.

Chapter V.

TRADITIONAL METHODS OF TEACHING LATIN GRAMMAR TRANSFERRED TO ENGLISH GRAMMAR.

PRELIMINARY CONSIDERATIONS.

From the very beginning it seems that English grammar was intended to perform for the mother tongue the same functions Latin grammar performed for that language. The aim of grammar schools—to make finished writers and speakers of Latin—was paralleled by the aim of English schools in America, patterned after Franklin's Academy—to make finished writers and speakers of the vernacular. In each the grammatical study of the languages was fundamental. As the requirements of practical life in America seemed to demand less Latin and more English, and as the English schools more and more took on the dignity formerly held by the Latin schools, English grammar advanced correspondingly to a more prominent place in the curriculum. This identity of function is powerfully supported by the striking similarity in content and in methods of study as expounded by textbook makers.

The present and the succeeding chapter trace the changes in methods of teaching which have marked the successive stages of English grammar in American schools between 1750 and 1850.⁶⁸ Roughly, this aspect of the study may be outlined in two grand divisions, each consisting of three subdivisions of approximately 25 years:

I. Grammar as an art.

- (a) Latin period, 1750 to 1784.
- (b) Rote period, 1784 to 1823.
- (c) Parsing period, 1823 to 1847.

II. Grammar as a science.

- (a) Analysis period, 1848 to 1873.
- (b) Rhetorical period, 1873 to 1891.
- (c) Incidental study period, 1891 to 1920.

The two main divisions are based upon the fundamental conception of grammar held by the leading grammarians.⁶⁹ About 1850 the idea

⁶⁸ A later study will carry the investigation down to 1920.

⁶⁹ The term "leading grammarians" is perhaps misleading. The connotation intended is to designate authors leading in influence upon school practices. In this sense Murray is the leading grammarian in this country up to 1850. The date of his textbook (1795) is not selected as a dividing point in the outline, because the date of Webster's Grammar

that grammar is an art was changed to the idea that grammar is a science. To the various subdivisions names have been given on the basis of the one method predominating during the period involved. The chronological limits of the periods have been marked by the date of an innovating textbook of widespread influence or by some other important or culminating event explained in the course of the discussion.

The year 1848 does not mark a sharp breaking away from the conception of grammar as an art, for progress in methods of teaching can not be marked by exact dates. Long before any important change becomes prevalent in all or in almost all schools, far-seeing teachers are discarding the old and experimenting with the new. For instance, before 1848 some grammarians had substituted the sentence for the word as the unit of instruction; long after 1848 many textbook makers clung tenaciously to the word as the unit of study. Grammarians earlier than Greene (1848) had made their point of departure the analysis of sentences; but Greene seems to have come at the opportune moment, when schoolmen were aroused, when disgust with old methods had reached a crisis. His book became exceedingly popular; he had many followers. The date of his grammar marks the chief turning point in our discussion of methods. In a similar way the significance of the major event which marks each step in the outline will be considered in detail through 1850. The point to be borne in mind is that great changes in methods are not instantaneously inaugurated; they are matters of slow and painful growth.

One further word of explanation. The names given to the six periods are titles of predominating methods. A possible criticism of this nomenclature is that parsing, for example, is as old as grammar itself and will continue in some form as long as grammar is studied. Granted that this is true. The evidence presented for the years 1823-1848 seems to indicate that amid the passing of the old and the coming in of the new methods parsing was the method par excellence. The same comment is pertinent to all the other periods except the first. The confusing element here is that Latinized methods exerted a strong influence in a great majority of schools through the entire nineteenth century and are with us to-day, though happily in diminishing emphasis. Noah Webster was right when he said that it requires the club of Hercules wielded by the arm of a giant to destroy the hydra of educational prejudice.

(1784) more closely approximates the close of the Revolution. Moreover, in influence upon the schools Webster and Murray were very similar. Regarded in another sense, Murray was far from a leading grammarian, for he was a confessed compiler, frankly indebted to Lowth, Priestley, and the British grammar. He was a follower, not a leader, in constructive grammatical scholarship, being in this regard below Noah Webster. Throughout this chapter grammatical thinkers have our attention only in so far as it can be shown that they exerted a direct influence upon the school practices of their day.

The methods of the early Latinists ⁷¹ seem to have cast their baneful influence over the entire four centuries during which the vernacular has been building for itself a suitable grammatical study. At any rate, the Latin and the Rote periods are really one and the same. The writer has no particular pride in maintaining strict chronological balance in his outline, except that he thinks it helpful to divide the period 1750 to 1823 into two parts. The other five periods are useful limitations both as to time and title. The following study of the interrelations of these periods may throw some light upon what has been heretofore a confused and confusing field.

1. GRAMMAR AS AN ART.

An examination of a series of definitions of grammar taken from influential textbooks ⁷² indicates that grammar was considered an art in the texts which determined the earliest instruction in America.

Ben Johnson: Grammar is the art of true and well-speaking a language; the writing of it is an accident.⁷³

Lily: Grammatica est recte scribendi, atque loquendi ars.⁷⁴

Wharton: Grammar is the Art of Writing, and Speaking, well.⁷⁵

Brightland:

Grammar do's all the Art and Knowledge teach,
According to the Use of every Speech,
How our Thoughts most justly may express
In Words, together join'd, in Sentences.⁷⁶

Greenwood: Grammar is the Art of Speaking rightly. I have left out the Art of Writing, because that is an Accident of Speech, and none but the essential or chief Things ought to be put into a definition.⁷⁷

Dilworth: Grammar is the Science of Letters, or the Art of Writing and Speaking properly and syntactically.⁷⁸

Fisher: Grammar is the Art of expressing the Relation of Things in Construction, with due Accent in Speaking, and Orthography in Writing, according to the Custom, of those whose Language we learn.⁷⁹

British: Grammar is the Art of Expressing the Relations of Words in Construction, with due Quantity in Speaking and Orthography in Writing.⁸⁰

Lowth: Grammar is the Art of rightly expressing our Thoughts by Words.⁸¹

Priestley: The grammar of any tongue is a collection of observations on the structure of it, and a system of rules for the proper use of it.⁸²

⁷¹ "Latinists" is the term repeatedly used by Franklin.

⁷² An attempt is made here to select for comparison books which immediately preceded the beginnings of grammatical instruction in America: First, books upon which English grammar was founded; second, books which, printed in England in the eighteenth century, were imported or reprinted in America and used as textbooks; and, third, books written by American authors which were most influential before 1825. The text selected and the editions used are named in the bibliography.

⁷³ Lily, op. cit., 1.

⁷⁴ Johnson, op. cit., 3.

⁷⁵ Wharton, op. cit., 1.

⁷⁶ Brightland, op. cit., 1.

⁷⁷ Greenwood, op. cit., 48.

⁷⁸ Dilworth, op. cit., 85.

⁷⁹ Fisher, op. cit., 1.

⁸⁰ British, op. cit., 1.

⁸¹ Lowth, op. cit., 1.

⁸² Priestly, op. cit., 1.

Alexander: Grammar teaches the Art of expressing and communicating our thoughts with verbal propriety.³³

Murray: English Grammar is the art of speaking and writing the English language with propriety.³⁴

Webster: Grammar is the art of communicating thoughts by words with propriety and dispatch.³⁵

Brown: English Grammar is the art of speaking and writing the English Language correctly.³⁶

Brightland uses the definition "Art and Knowledge, according to the Use of every Speech, how we our Thoughts express in Sentences"; that is, the idea—knowledge of the use of language in sentences—seems to be prominent. But our feeling that the author of Brightland's textbook may have had an inkling in 1706 of the modern conception of grammar as a science is quickly dispelled. We find him explaining in a footnote: "The modern as well as the old grammarians have given us various Definitions of this useful Art."³⁷ Greenwood, who is a close follower of Jonson, in his edition of 1711, calls writing an accident; but in his third edition (1747) he changes his definition to "English Grammar is the art of speaking and writing the English language with propriety." This definition Murray copies exactly.

Dilworth uses the word "science," but he speaks of the science of letters, which he considers the art of speaking and writing properly. Priestley certainly states the modern conception in his definition, but his apparant insight is misleading, for, in spite of certain innovations in method to be considered later, he treats grammar as an art. The true nature of grammar had apparently not even remotely suggested itself to Webster when in 1784 he wrote his first grammar. At that time his definition is: "Grammar is the Art of communicating thought." By 1790 the light seems to have dimly dawned upon him, for in the preface to his "Rudiments of Grammar" he affirms: "Rules are drawn from the most general and approved practice, and serve to teach young students how far their own practice in speaking agrees with the general practice."³⁸ In a later grammar (1831) he goes still further. His definition now is: "A system of general principles, derived from the national distinction of words, deduced from the customary forms of speech in the nation using that language."³⁹ Here, certainly, Webster has gone far toward the modern conception that grammar comes after a language has been in use; that it is a statement of principles of usage as found in the spoken and written communication of the most expert. The principles of this science are to be found by minute analysis of wholes into parts, with consequent

³³ Alexander, op. cit., 3.

³⁴ Murray, op. cit., 7.

³⁵ Webster, op. cit., 5.

³⁶ Webster, *An Improved Gram. of the Eng. Tongue*, 3.

³⁷ Brown, op. cit., 15.

³⁸ Brightland, op. cit., 1, footnote.

³⁹ Webster, *Rudiments*, 2.

generalizations to establish general principles. But Webster at first apparently had only a mere glimmer of the truth. He treated grammar as an art of building up wholes from smaller parts.

Finally, Goold Brown, whom we shall see even as late as 1851 the last prominent fighter of the old guard, still championed the conception of grammar as an art when nearly everyone else had abandoned it. He said in 1823: "Grammar is the art of speaking and writing the language correctly." This was the common conception held by grammarians up to the middle of the nineteenth century.

The force which fastened this conception so firmly is undoubtedly the force of tradition. Even the word grammar is from the Greek *gramma*, a letter. These characters are the elements of written language, as articulate sounds are the elements of spoken language. Hence, from the very derivation of the word, one seems bound to start with the simplest elements and build up the more complex forms. The natural and easy way to learn had always seemed to be to proceed from the element to the complex structure. Letters, syllables, words, sentences—this makes a seemingly more logical sequence than the reverse process. The child says "water" if he is thirsty. To-day it is recognized that he means a sentence—"I want water." Consequently the process of learning in both reading and writing (composition) to-day proceeds from the whole to the part. But to attain this new conception has been a matter of slow and painful growth. In it we have come to realize that grammar, the science of sentences, is a matter of late study, if, indeed, it need ever be taught to children trained by imitation to speak and write accurately.

The truth is that the term grammar—the art of letters—is a misnomer, considering our modern conception of the subject. However, our intent here is merely to state the apparent cause of the earlier misconception.

2. METHODS USED IN STUDYING LILY, AND LATIN GRAMMAR IN GENERAL, SEVENTEENTH CENTURY.

We shall now consider how the methods of study pursued in Latin grammars were carried over into the study of English. In "The Epistle to the Reader," in all editions of Lily, we find specific recommendations as to classroom procedure.

First, Colet urges that progress be very slow; ⁹⁰ also that there be liberal oral rehearsing of all parts until they be perfectly mastered mechanically.⁹¹ Perfect "without book" is an expression one meets

⁹⁰ "The first and chieftest point is, that the diligent master make not the schollar haste too much." Lily, Epistle, 2.

⁹¹ "Make him to rehearse so, that until he hath perfectly that, which is behinde, he suffer him not to go forward; . . . the best and chieftest point . . . is, that the schollar have in minde so perfectly that, that he hath learned, and understood it so, that not only it be not a stoppe for him, but also a light and helpe unto the residue that followeth." Ibid.

again and again in pedagogical discussions of the time.⁹³ This was to be accomplished by numerous repetitions, frequent rehearsals, and periodical examinations by the teacher.⁹³

In this laborious fashion the pupil is to make himself master of every declension of nouns and conjugation of verbs. He is to be able to decline and conjugate forward and backward.⁹⁴ Until this is done the pupils are not allowed to go forward.

From this mastery of paradigms the pupil is to pass to an equally difficult study of the "concordes." These are to be learned with "plaine and sundrie examples, and continuall rehearsall of things learned, and especially the daily declining of the verb, and turning it into all fashions."⁹⁵ Schoolmasters are advised that subsequent lessons will be easy if "the foregrounds be well and thoroughly beaten in."⁹⁶ Probably no pun was intended, but the phrase perhaps gave church authority for a common method of persuading reluctant pupils to their tasks.

After these studies of the concords the pupil is to "learn some petty book containing . . . good plain lessons of honesty and godliness."⁹⁷ Then is to follow the translation of English sentences from the book into Latin and the learning of the rules of syntax which govern the construction. The Latin sentences are to be repeated in the words of the book.⁹⁸ This sets another premium upon slavish memorizing. In all this the pupil is never to be idle, but "alwaies occupied in a continual rehearsing, and looking back again to those things they had learned."⁹⁹ Constant reviewing is the unbroken order of the day. Every process is based upon knowledge of the rules.¹⁰⁰

⁹³ "That they have dailly some speclall exercise of the memory, by repeating somewhat without booke; as a part in their rules the foure first daies of the weeke . . . all the rules of the weeke on the Saturday." Brinsley, *Ludus Literaris*, 51.

⁹⁴ In East Retford the first part of the morning in the first four days of the school week was devoted to saying over "one of the Eight Parts of Speech like as the manner and fashion of all grammar Schools, and upon Friday Sum es tul, with his compounda, as shall seem to the School-master convenient." Carlisle, *op. cit.*, II, 282, Statutes, 1552.

"This is all that I have used: To let them reade it (The Accedence) over every one by himselfe by lessons. . . . Thus I make them reade over their Accidence . . . before they do get it without booke. Secondly, for getting it without booke, I cause them . . . to say it as oft as they can." Brinsley, *op. cit.*, 53.

⁹⁵ "Wherein it is profitable, not only that he can orderly decline his noune, and his verbe, but everyway, forward, backward, by cases, by persons: that neither case of noune, nor person of verbe can be required, that hee cannot without stoppe or studie tell. And unto this time I count not the schollar perfect nor readie to go any further. . . ." Lily, *op. cit.*, 3.

⁹⁶ *Ibid.*

⁹⁷ *Ibid.*, 3.

⁹⁸ *Ibid.*, 4.

⁹⁹ "Therefore (from the book) take some little sentence, as it lieth, and learne to make the same out of English into Latine, not seeing the booke, or construing it there upon . . . which sentence well made, and as nigh as may be with the wordes of the booke." Lily, *op. cit.*, 3.

¹⁰⁰ *Ibid.*, 4.

¹⁰⁰ "If the maister give him an English booke and cause him ordinarily to turne it every day some part into Latine. This exercise cannot be done without his rules." *Ibid.*, 4.

The final step is teaching pupils to speak Latin. This is to be accomplished by drill until "a man is clean past the use of this grammar booke," until he is as "readie as his booke." Then he is perfected "in the tongue handsomely."¹

In order to determine more certainly what the classroom practices of the early Latin study were, we may supplement the summary of suggestions of Colet, in Lily, with the advice of the schoolmaster, Brinsley. His book was written in 1612, when Lily was most popular in the grammar schools. It may be taken as reliable evidence of the practice of his day, perhaps in the most advanced practice. In "The Grammar School" Brinsley devotes a chapter to the topic "How to make children perfect in the Accidence." The following chapters discuss the other parts of instruction in Latin. Brinsley's exposition appears to be entirely consistent with Colet's, given above. He has his pupils (1) read over their lessons many times; (2) learn every rule, with title, "without booke"; (3) recite, one by one; (4) get accidence without book; (5) repeat the beginnings of rules in a connected title, "without booke" (he insists that the principal duty is to get rules without book); (6) go through weekly repetitions to prevent forgetting; (7) learn very little at a time (the pupil is to be letter-perfect in each part before proceeding); and (8) answer questions in the book.

He has the master (1) explain difficult parts, construe and show meanings; (2) use the question-and-answer method; (3) constantly call for examples of rules—the examples given in the book; (4) hear parts, making the pupil repeat his rule; (5) spend a month in making the accidence perfect; (6) give continual practice in parsing; (7) keep the rules in mind (by making scholars learn perfectly, constant repetition, continual care for parts, repeating often the summes of rules, applying examples); (8) endeavor to make the grammar a dictionary in their minds; (9) apply a prescribed formula for construing (construe the vocative first, the principal verb next, then the adverb, then the case which the verb governs, and, last, the substantive and adjective); (10) hear them parse every word as they construe, accompanying the parsing with rule and example; (11) follow by theme writing and verse making; and (12) give constant practice in the upper forms in speaking Latin.²

¹ An interesting pedagogical doctrine, certainly sound, appears paradoxically in the midst of this insistence upon minute mastery of details. It is a caution against mere rote memorizing. "This when he can perfectly doe, and hath learned every point, not by rote but by reason, and is cunninger in the understanding of the thing, than in rehearsing of the words . . ." Lily, *op. cit.*, 3. Thus as early as 1541, at least, was uttered a protest against what was to be for nearly three centuries the curse of all grammar teaching in the mother tongue.

² Brinsley, *op. cit.*, 53-145.

In this list the endeavor has been to select 20 of the leading principles of instruction advocated by Philoponus, the character in Brinsley's dialogue, who represents the better type of teaching.³ In some cases the suggestions have been taken from the mouth of Spondeus, the representative in the dialogue of the poorer teachers of his day.

To the testimony of Colet and Brinsley may be added the practices of Roger Ascham in teaching Latin grammar, as set forth in "The Schoolmaster," 1563.

(A) Preparatory: Learn perfectly the eight parts of speech and the joining together of substantives with adjectives, verbs with nouns, relatives with antecedents.

(B) Double translation: 1. The master is to construe the model book for the child that he may understand.

2. Then the pupil is to parse and construe, as the master has done for him, often enough for the pupil to understand.

3. The lesson is to be translated into English in a paper book.

4. After an hour he is to translate his English back into the Latin in another paper book.

5. The master is to examine these translations and lead the pupil until he is able "to fetch out of his grammar every Rule for every example; so as the grammar book be ever in the scholar's hands, and also used of him as a Dictionary for every present Use."

6. The master is to compare the pupil's Latin with the original in the model book.

"With this way of good Understanding the matter, plain construing, diligent parsing, cheerful admonishing, and heedful amending of Faults; never leaving behind just praise for well doing: I would have the Scholar brought up."

(C) Analysis: 1. Give him longer lessons to translate. "Begin to teach him, both in Nouns and Verbs, what is Proprium, and what is Translabum (figurative), what Synonym, what Diversion, which be Contraria, and which be most notable Phrases, in all his Lecture (reading)."

2. Let him write four of these forenamed six diligently marked out of every lesson in a third paper book.⁴

(D) Reading: 1. "I would have him read now, a good deal at every Lecture, some book of Cicero, Cæsar, etc."

2. "He shall now use daily Translation, but only construe again and parse. . . . Yet let him not omit in these Books his former Exercise, in mastering diligently and writing orderly."

³ An admirable statement of the methods used in the grammar schools in 1818 appears in Carlisle, "Endowed Grammar School," 1818, 828-30. It begins: "When the Pupil has committed to memory. The Accidence, Propria quae maribus, etc. . . ." The account tallies in very many details with the methods laid down by Colet and Brinsley, and indicates that Latin instruction had remained in scope and method relatively stable for three hundred years.

⁴ Ascham, *The Schoolmaster*, Mayor, 1-9.

3. The master is to translate some easy Latin into good English, the pupil to translate it into Latin again.

4. The master is to compare the pupil's work with the original.

(E) Third kind of translation: 1. The master is to write some letter in English, as if from the boy's father, or copy some fable.

2. The pupil is to translate it into Latin.⁵

3. LATIN METHODS CARRIED DIRECTLY TO ENGLISH GRAMMAR. MEMORIZATION.

"The book itself will make anyone a grammarian." Thus spoke Goold Brown in his grammar of 1823.⁶ His statement fittingly characterizes the attitude of teachers and writers⁷ throughout the entire course of English grammar down to 1823, and, unfortunately, the same attitude has not entirely disappeared to-day. We have just seen a summary of methods used in teaching Latin grammar. We now turn to the task of showing that they were carried over directly into English in the spirit voiced by Goold Brown as late as 1823.

MASTERING PARTS IN ORDER.

This principle is worthy of mention first because it underlies almost all of the methods to be considered later. We have seen that Colet, in his "Epistle," asserts that "the first and chiefest point is, that the diligent Maister make not the scholar haste too much" and that he make him get "perfectly that which is behind" before "he suffer him to go forwards."⁸ Brinsley supports this plan. The children are first to get their letters, then to spell, then to join syllables together, then to go through the A B C's and primer, etc.⁹ To be sure,

⁵ Ibid., 92.

⁶ Brown, op. cit., preface, VII.

⁷ The efforts of the past century to break away from the Latin methods are reserved for the following chapter. In the preceding section were shown various supplementary devices, parallel reading, dictation, copy books, writing exercises, oral work; dating back to Brinsley, Ascham, Hoole, and Colet. In both the Latin instruction and the first vernacular instruction these devices were strictly subordinated to the great triumvirate of methods—memorization, parsing, and false syntax. They remained strictly subordinate and incidental until about 1850. But during the century preceding 1850 the use of "petty books" gradually evolved into the study of English literature; dictation, the use of copy books, and writing exercises by a similar process of evolution became composition as we now know it, and the simple oral exercises of the earlier day became oral composition of the present. The practice of orations and disputations in Latin, common in both grammar schools and colleges before English entered the curriculum, was very influential in bringing these exercises into English schools.

The process of evolution was but partially completed by 1850, because literature, composition, and oral work were all subordinate to grammar. Beginning about 1850 evolution has made these branches of the vernacular more robust. The best school practice of to-day makes grammatical study strictly subordinate to them. The point is that since 1850 this complete reversal between grammar, on the one hand, and vernacular branches, on the other, has taken place.

This statement, anticipating discussion not covered by this thesis, has been made here in order to place the extremely Latinized methods of the Latin and rote periods in sharp contrast with the best methods of to-day.

⁸ Lily, op. cit., 2.

⁹ Brinsley, op. cit., 15 et seq.

he is in this instance speaking of learning to read; but it makes the inference all the more inevitable. In all studies the method was from the part to the whole, each part to be mastered perfectly in order. The pupil reads over and over the small part of the text assigned, forward and backward, until mechanically perfect.¹⁰

In the beginning of the eighteenth century Brightland and Greenwood (1706 and 1712) urge for English grammar exactly the same procedure.¹¹ The former describes his method. "We begin with what is first to be learnt, that what follows may be understood; and proceed thus step by step, till we come to the last and most difficult, and which depends on all that goes before it."¹²

Greenwood also indicates the mastery of part by part:

And every Body must readily grant that the Way to come to a true and clear Knowledge of any Art, is to explain Things unknown, by Things that are known.¹³

In the middle of the century, also, the author of the British Grammar explains the steps of a recitation:

Spell every word of the lesson, by syllables; give the signification of each word; state the part of speech, with reasons, etc.¹⁴ After the Scholars know their Letters ground them well in their Monosyllables with the soft and hard Sounds of C and G. 'This they will soon learn from Word of Mouth, by frequent Repetition. . . .'¹⁵

Sewell, toward the end of the century, assigns "small portions to be got by heart,"¹⁶ and Brown, 1823, still continues the practice. "In etymology and syntax, he should be alternately exercised in learning small portions of his book and then applying them in parsing, till the whole is rendered familiar."¹⁷

The evidence thus presented is in strict accord with the textbook matter of all grammars. So long as orthography, etymology, syntax, and prosody were considered the four divisions of grammar, so long as it was thought of as an art, a whole to be built up "mosaic-like out of paradigms and syntax rules";¹⁸ so long as schoolmasters in general remained woefully ignorant and were competent only "to hear" recitations, verbatim, about matters they little understood,¹⁹ just so long this procedure, tedious and slow, from part to part, was fastened

¹⁰ Ibid., 19.

¹¹ This is in exact accord with the educational theory of Herbart: "In the case of all essential elementary information—knowledge of grammar, arithmetic, and geometry—it will be found expedient to begin with the simplest elements long before any practical application is made." Herbart, *Outlines*, 129.

¹² Brightland, preface, 7th page (pages unnumbered in text).

¹³ Greenwood, preface, 2.

¹⁴ British, preface, XIV.

¹⁵ Fisher, preface, IX.

¹⁶ Sewell, preface, VI.

¹⁷ Brown, preface, VI.

¹⁸ W. D. Widgery, quoted by Watson, *Gram. Sch.*, 285.

¹⁹ See Resolutions of Germantown School Committee, Chap. II, p. 28.

upon the schools. The evidence presented shows little or no progress from Lily (1510) to Brown (1823).

MEMORIZING RULES.

Of course, this fundamental principle—mastering each part in order—could give but one meaning for the term mastering; it was slavish memorizing, nothing more nor less.

Colet and Brinsley insist that rules are to be learned and repeatedly rehearsed until pupils can “say them without book.” This, says Brinsley, is one of the chief points aimed at.

To teach scholars to say without book all the usual necessary rules; to construe the Grammar rules; to give the meaning, use, and order of the rules; to shew the examples, and to apply them; which being well performed, will make all other learning easie and pleasant.²⁰

He insists that the master is to have some exercise of the memory daily²¹ and that—

in hearing parts, aske them first the *chiefe* question or questions of each rule in order; then make them every one say his rule or rules, and in all rules of construction, to answere you in what words the force of the example lyeth, both governour and governed.²²

Moreover, both Philoponus and Spoudeus agree that this perfect memorizing is the principal method of procedure. Spoudeus: “Oh, but this is a matter, that is most accounted of with us; to have them very perfect in saying all their Grammar without booke, even every rule.” Philoponus: “To this I answere you; that this indeede is one principall thing.”²³ This is to be accomplished as follows. Spoudeus: “I have onely used to cause my Schollers to learne it without booke, and a little to construe it . . . by oft saying Parts.”²⁴

Greenwood, though advanced somewhat, indicates also the memorizing method. He has a device which avoids the necessity of learning every word of the text. Passages most necessary to be learned at the first going over are marked by an asterisk or star (*). “By what is to be learned, and what passed by, the discretion of the teacher will better determine.”²⁵

That the year 1750 had shown little progress is indicated by Dilworth, who, speaking of learning to spell, holds against spelling by ear. “There can be no true Method of Spelling without Rule.”²⁶ The British Grammar advises that “it will redound to a Scholar’s Advantage to begin the Repetition of the Grammar as soon as he can read it.”²⁷ Lowth, too, agrees as to learning grammar.

²⁰ Brinsley, op. cit., 74.

²¹ Ibid., 51.

²² Ibid., 69.

²³ Ibid., 85.

²⁴ Ibid., 70.

²⁵ Greenwood, preface, 5.

²⁶ Dilworth, preface, VIII.

²⁷ British, preface, III.

The principal design of a Grammar of any Language is to teach us to express ourselves with propriety in that Language. The plain way of doing this is to lay down rules, and to illustrate them by examples.²⁶

And Brown, in 1823, again shows the close adherence to the method of centuries before:

The only successful method of teaching grammar is, to cause the principal definitions and rules to be committed thoroughly to memory, that they may ever afterwards be readily applied.²⁷

In 1767 Buchanan, in his "Regular English Syntax," says:

Let them first spell this exercise (some good English classic) off by giving the rules of spelling; next the various significations of the word; let them give account of the parts of speech one by one, applying the rule of syntax.²⁸

A commentator on the methods of studying grammar in 1810 thus describes a schoolroom scene:

We learned the first six lines (Young Ladies' Accidence) which contained the names of the ten "sorts of words" and recited them at least 20 times to our neighbors; but, when called to the master's desk to recite them, our minds became a perfect blank. We stood mute and trembling . . . and were condemned to stand on a box with our face to the wall, till we could recite the lesson. Of course, we hated English grammar from that day forward.²⁹

The famous Asa Rand comments on methods of his boyhood about 1790:

In the period of my boyhood we had strange notions of the science of grammar. We did not dream of anything practical or applicable to the language we were using every day till we had "been through" the grammar several times and parsed several months. Why? Because we were presented at once with a complete set of definitions and rules which might perplex a Murray or Webster without any development of principles, any illustrations we could understand, any application of the words to objects which they represent. We supposed that the dogmas of our "gram books" were the inventions of learned men, curious contrivances to carry the words of a sentence through a certain operation which we called parsing, rather for the gratification of curiosity than for any practical benefit. The rule in grammar would parse the word, . . . as the rule in arithmetic would "do the sum" and "give the answer." And with such exploits we were satisfied. Great was our admiration for the inventive power of those great men, who had been the lights of the grammatical world.³⁰

Also one more witness as to the practice of memory work, after the Lancastrian system was in vogue:

In those days we studied grammar by committing a portion of a small book (Accidence) to memory and reciting it to the teacher. If he was engaged, the lesson was recited to one of the highest class. . . . The rule was that the whole book should be recited literally, three times, before the pupils were allowed to apply a word of it in parsing sentences, and as no explanation was ever made of

²⁶ Lowth, preface, X.

²⁷ Brown, VI.

²⁸ Quoted in Ed. Rev., XII, 491.

²⁹ C. S. J. (1850), 74.

³⁰ See Am. Ann. of Ed. and Ins. (1833), 162.

any principle the pupil was as well qualified as the teacher to hear the words repeated.³²

William Ward, a schoolmaster of 30 years' standing, author of "A Practical Grammar," gives a minute description of the method used in his school about 1780, the public grammar school at Beverley, in the county of York, England:

Our Way of using the Book is this: if a child has not learned any Thing of the Latin Declensions and Conjugations, we make him get the English Forms by heart; if otherwise, we make him read the English Forms several times over, till he remembers them in a good measure; then we hear him read the Descriptions of the several parts of speech; and after he has done so, and has some notion of the Meaning of each, we oblige him for some weeks to read three or four Sentences twice or thrice a Day, in an easy English Book, and to tell the Part of Speech to which each word belongs. When the Child is pretty ready at distinguishing the Parts of Speech, we make him get by heart the Rules of Concord in Verse, and teach him how to apply them, by resolving the Sentences in some English Book. When this is done, we make him write out several of the other rules, and get them by heart, and shew him-how to apply them likewise, by parsing, or resolving what he reads by these Rules. And thus by Degrees, children become Masters of all the material Parts of the Book without much Difficulty.³³

The educational literature of America concerning this period (1750-1823) is filled with evidence that memorizing methods predominated practice. Wickersham quotes a master of 1730 who said: "I find no way that goes beyond that of repeating, both in spelling, reading, writing, and cyphering."³⁴ A school boy of 1765 records that "at six . . . I learned the English grammar in Dilworth by heart."³⁵ In 1780 Principal Pearson, of Phillips Andover, testifies that "a class of thirty repeats a page and a half of Latin Grammar; then follows the Accidence Tribe, who repeat two, three, four, five, and ten pages each."³⁶ A Princeton college youth of 1799 wrote his brother, "committed to memory verbatim 50 pages of English Grammar."³⁷ Before the Revolution what little grammar was taught in Boston was confined almost entirely to committing and reciting rules.³⁸

W. B. Fowle, a prominent schoolman of Boston, says of the schools of 1795: "Pupils at our school were required to learn Bingham's Young Ladies' Accidence by heart three times. . . . We were two or three years in grammar."³⁹ Murray, author of the grammar most widely used, announced that in later editions he had been careful to rephrase his definitions smoothly, that they might be memorized and

³² C. S. J. (1850), 337.

³³ Ward, *English Grammar*, preface, X.

³⁴ Wickersham, *op. cit.*, 214.

³⁵ C. S. J. (1850), 3.

³⁶ Quoted, Brown, *Mid. Sch.*, 262.

³⁷ Correspondence quoted in full, Snow, *Col. Cur.*, 116.

³⁸ Herman Humphrey, *Am. J. of Ed.*, XIII, 127.

³⁹ C. S. J. (1850), 5.

retained more easily.⁴¹ The minutes of the trustees of Oyster Bay Academy, New York, prescribe the memorizing method as follows: "(1) The Monitor, to be read daily as the last lesson; (2) Webster's Grammar, to be read or repeated from memory; (3) The Testament or Bible, to be read . . ." ⁴²

The evidence seems to indicate that the slavish memorization of rules, centuries old in schoolroom practice, had made but little progress from the time of Lily to Gould Brown. It was carried with all its terrors directly into the study of English grammar.⁴³

DEVICES TO AID IN MEMORIZING.

As complete memorization was the order of the day it is not surprising to find teachers endeavoring to find devices to aid the pupils in this arduous task. So far we have found records of five distinct devices tending to accomplish this purpose.

The first is constant repetition. Colet insists on daily defining rules; ⁴⁴ Brinsley strongly urges repetitions.⁴⁵ Teachers of the eighteenth century continued the practice of strengthening memory by constant repetition. The British Grammar urges masters to have their pupils repeat the entire grammar in portions once a month,⁴⁶ and Sewell especially requires of his pupils frequent repetitions of paradigms.⁴⁷

The second device is rhyming. We have already referred to Brinsley's plan of having pupils read the rules in meter. Rules of politeness in verse were old in Latin and were common in English; for

⁴¹ Murray, 12.

⁴² Fitzpatrick, Ed. Views and Inf. of D. Clinton, 22.

⁴³ An interesting proof of memorization is found in the copy of Alger's Murray, used by the writer, the stereotyped edition of 1825. The book belonged to one George A. Severins; his signature is dated Roxbury, December, 1828. Evidently his teacher had not been satisfied with Murray's definition of grammar and had dictated the following substitute: "Grammar teaches the arrangement of words according to the idiom or dialect of any particular people, and that excellency of pronunciation which enables us to speak and write a language agreeable to reason and correct usages." This is an unusually good definition for 1828 and indicates that this teacher was moving toward the modern conception of the science. But young Severins has written this definition out in full four times on the fly leaves and the blank pages at the end of the book, evidently making sure that he is letter-perfect.

Samuel G. Goodrich, telling of his boyhood school days in Ridgefield, Conn., about 1785, says: "The grammar was a clever book. . . . Neither Master Stebbins nor his scholars ever fathomed its depths. They floundered about in it, as if in a quagmire, and after some time came out of it pretty nearly as they went in, though perhaps a little obfuscated by the dim and dusty atmosphere of those labyrinths." *Am. J. of Ed.*, XIII, 139.

⁴⁴ Lily, preface, 3.

⁴⁵ "No evening is to be passed without some little exercise against the morning." Brinsley, *op. cit.*, 164. "To imprint it by repetition the next morning, together with their evening exercises." *Ibid.*, 152. A fuller explanation is given by Brinsley of insuring ease in remembering rules: Make the scholars learn them perfectly; give frequent repetition; instill continual care for parts; examine them daily; when parsing, turn every hard rule to use; in higher forms give repetition less often. *Ibid.*, 85. Brinsley also mentions two subdevices. He would have the pupils mark their books, copying from the teacher's book, to assist memory (*ibid.*, 141) and would have them "read the rules over in a kind of singing voice after the manner of running of the verse." *Ibid.*, 73.

⁴⁶ British, preface, III.

⁴⁷ Sewell, preface, VIII.

example, in "The Schoole of Vertue,"⁴⁸ Brinsley, speaking of verse, says: "To reade them over in a kinde of singing voice after the running of the verse. . . ." ⁴⁹ Only two of the grammars here intensively studied adopt the method of rhyming for rules—Brightland's and Ward's. The former asserts that he has "put all the Rules into as smooth and sonorous Verse as the Nature of the Subject wou'd bear . . . to give them the greater Light." He adds an explanation in prose following the Jesuit Alvarus in his Latin grammar "which is used in all the Schools of Europe, except England." Brightland maintains that "verse is more easily learnt; that Rhimes help, one end recalling the other." These lessen the burden to memory.⁵⁰ In Ward's Grammar rules are put in verses that rhyme, with a repetition in prose of what each rule contains. For the 35 rules of syntax Ward has 170 verses.

The third device to assist memory is the use of examples. Brinsley goes so far as to insist that in recitations the example is to be given with "his" rule.⁵¹ He further makes them give examples:

Apply examples to rules; learn every rule perfectly as they go forward; read them over their rule leisurly and distinctly; construe the rules and apply examples for them; learn all the rules until the pupil can "beate it out of himselfe."⁵²

This is a common practice in all the more elaborate grammars. Lowth especially makes point of illustrative examples accompanying each rule.⁵³

The fourth device was selection of parts. The first textbook maker who desired to relieve memory by proper selection of parts to be memorized was Greenwood. In his grammar he distinguished the more important parts by printing them in larger type. Fisher did not desire his pupils to be troubled with learning the exceptions to rules.⁵⁴ Herein we find further evidence that it had been the practice to require the learning by heart of rules, examples, and exceptions. Murray uses the same device as Greenwood, commenting on the value of selections as follows:

The more important rules, definitions, and observations, and which are therefore the most proper to be committed to memory, are printed in larger type; whilst rules and remarks that are of less importance, that extend or diversify the general idea, or that serve as explanations, are contained in the small letter.⁵⁵

The fifth device is very old, namely, the question and answer. Hazlitt says that he has small volumes on cookery and gardening of the Middle Ages which are thrown into the interlocutory form, the most apt to impress names on the minds of the pupils.⁵⁶ He also gives a

⁴⁸ Eggleston, op. cit., 214.

⁴⁹ Brinsley, op. cit., 73.

⁵⁰ Brightland, preface, VI.

⁵¹ Brinsley, op. cit., 82.

⁵² Ibid., 70-1.

⁵³ Lowth, preface, X.

⁵⁴ Fisher, preface, X.

⁵⁵ Murray, preface, 1.

⁵⁶ Hazlitt, Sch. Books and Sch. Masters, 28.

series of rules and exercises in the form of question and answer in a textbook of 1509.⁵⁷ Brinsley advocates this method, but has Philoponus complain concerning books of this character—that he has been compelled to leave off entirely; that none are suitable; therefore he has made one for himself “having all the Questions and Answers arising most directly out of the words of the Rules.”⁵⁸

Of the 12 grammars here studied five retain the question-and-answer method—Greenwood's, Dilworth's, Fisher's, the British, and Priestley's. About the end of the eighteenth century the device seems to have gone largely out of vogue. Priestley says: “I have retained the method of question and answer . . . because I am still persuaded it is both the most convenient for the master and the most intelligible to the scholar.”⁵⁹ However, the question-and-answer method never had wide vogue in American grammatical textbooks; none of the important grammars which followed Murray seems to have used it. None of the Murray texts, nor Bingham's, nor Brown's, make use of it. About the only signs of advance made by American grammarians before 1800 are, first, the discarding of the question and answer, and, second, the simplification of the elaborate texts into the form of Bingham's *Young Ladies' Accidence*, Alexander's *Grammar*, and Webster's *Rudiments*.

SIMPLIFYING TERMS.

Quite in line with the devices enumerated above is the contention, constantly repeated by the various text-writers, that they are simplifying terms for the ease of the pupils. Brightland and his follower, Fisher, have, indeed, some right to make this contention. They discarded the four Latin main divisions—orthography, etymology, syntax, and prosody—and substituted letters, words, and sentences instead. Moreover, they call nouns, names; pronouns, pronames; adjectives, qualities; verbs, actions. They attempt to give definitions and explanations simply. Brightland waxes quite indignant. He claims “glorious improvements,” complains against Greenwood and others for not following him in his previous edition.⁶⁰ “Little Progress they made in a Discovery that had so fairly been laid before them by Dr. Wallis and Ourselves: For Custom has so strong a Force on the Mind, that it passes with the bulk of Mankind for Reason and Sacred Truth.”⁶¹ Murray insists that he phrases his rules exactly and comprehensively; also that they may readily be committed to memory and easily retained.⁶² For this purpose he has selected terms

⁵⁷ Ibid., 90.

⁵⁸ Brinsley, *op. cit.*, 87.

⁵⁹ Priestley, *preface*, VI.

⁶⁰ Brightland's first edition was 1706, Greenwood's 1711.

⁶¹ Brightland, *preface*, I.

⁶² Murray, *preface*, 4.

that are "smooth and voluble; has proportioned the members of one sentence to another; has avoided protracted periods and given harmony to the expression of the whole."⁶³

Priestley's argument for simplicity is convincing:

I have also been so far from departing from the simplicity of the plan of that short grammar (his first edition) that I have made it in some respects, still more simple; and I think, on that account, more suitable to the genius of the English language. I own I am surprised to see so much of the distribution, and technical terms of the Latin grammar, retained in the grammar of our tongue; where they are exceedingly awkward, and absolutely superfluous; being such as could not possibly have entered into the head of any man, who had not been previously acquainted with Latin. Indeed this absurdity has, in some measure, gone out of fashion with us; but still so much of it is retained, in all the grammars I have seen, as greatly injures the uniformity of the whole; and the very same reason that has induced several grammarians to go so far as they have done, should have induced them to have gone farther. A little reflection may, I think, suffice to convince any person, that we have no more business with a future tense in our language, than we have for the whole system of Latin moods and tenses; because we have no modification of our verbs to correspond to it; and if we had never heard of a future tense in some other language, we should no more have given a particular name to the combination of the verb with the auxiliary shall or will, than to those that are made with the auxiliaries do, have, can, must, or any other.

It seems wrong to confound the account of inflections either with the grammatical uses of the combinations of words, of the order in which they are placed, or of the words which express relations and which are equivalent to inflections in other languages. I can not help flattering myself that future grammarians will owe me some obligations for introducing this uniform simplicity, so well suited to the genius of our languages, into the English grammar.

Priestly bases his revolt against the Latin grammar upon another argument, which was decidedly new in his day, contending that the "only just standard of any language" is the custom and modes of speaking it. He revolts against leaning too much on analogies in language. He says:

I think it is evident that all other grammarians have leaned too much to the analogies of that language (Latin) contrary to our modes of speaking. . . . It must be allowed that the custom of speaking is the original and only just standard of any language. We see, in all grammars, that this is sufficient to establish a rule, even contrary to the strongest analogies of the language with itself. Must not custom, therefore, be allowed to have some weight in favor of those forms of speech to which our best writers and speakers seem evidently prone?⁶⁴

EXAMPLE AND ILLUSTRATION.

One final method, frequently urged by good teachers, was the setting of a good example and the careful explanation by the teacher of doubtful points. Colet urges that masters must set a good

⁶³ Ibid.

⁶⁴ Priestley, preface, VII-IX.

example.⁶⁵ Brinsley has the master read and explain difficult parts of the lesson; ⁶⁶ has the pupils read parts after the master has read; ⁶⁷ shows how the lecture method arose by lack of books; ⁶⁸ and has them parse in imitation of the master.⁶⁹ Greenwood gives as the reason why youth have found grammar "irksome, obscure, and difficult," "partly through the Want of having every Thing explained and cleared up to their Understanding as they go along."⁷⁰ The author of the British Grammar explains what was doubtless the practice of the better masters about 1750; he indicates a distinct advance in method. In this respect the author is shown as an innovator.

The Method I take, and I find it so far effectual to the End proposed, is, having got what I judged to be the best Book of Letters, I make several young Gentlemen stand up and read a Letter gracefully; after which I read it to them myself, making observations on the Sentiment and the Style, and asking their Opinions with Respect to both.⁷¹

This admirable practice was found only in the better schoolrooms. We shall see the movement for "oral explanation" as a part of the educational revival led by Horace Mann.⁷²

4. PARSING.

We come now to the other two of the great triumvirate of methods carried over from the Latin to the English grammar—parsing and false syntax. Brinsley complains that "there is so much time spent in examining everything" (parsing); nevertheless, he insists that his pupils parse as they construe.

Ask the child what word he must begin to parse (Principal word).⁷³ . . . In the several forms and Authors to construe truly, and in propriety of words and sense, to parse of themselves and to give a right reason of every word why it must be so, and not otherwise. . . . Parse over every word; teach what part of speech, how to decline it. give a true reason for every word, why it must be so.⁷⁴

Brinsley's elaborate method of procedure is as follows: The scholar is to read the sentence before he construes; mark all the points (punctuation) in it; mark words beginning with great letters; understand the matter; mark the vocative case; seek out the principal verb; give every clause his right verb; supply wanting words; give every word his "proper signification"; join the substantive and adjective; mark if the sentence have an interrogation point.⁷⁵

⁶⁵ Lily, op. cit., 2.

⁶⁶ Brinsley, op. cit., 74.

⁶⁷ Ibid., 99.

⁶⁸ Ibid., 55.

⁶⁹ Ibid., 41.

⁷⁰ Ibid., 95. This is a careful examination of the nature of the sentence which does not come into the practice of American schools until well down into the nineteenth century. Green's Analysis of 1848 did much to throw the emphasis previously given to dry formalism in grammar to the analysis of sentences. See Chap. VII.

⁷¹ Greenwood, preface, II.

⁷² British, preface, XXVIII.

⁷³ See Chap. VI, p. 146.

⁷⁴ Brinsley, op. cit., 127.

⁷⁵ Ibid., 125.

An example of "praxis" or "grammatical resolution," the system of torture called parsing, which lasted well toward the end of the nineteenth century, may be taken from Lindley Murray's books:

The sentence:

And he came into all the country about Jordan preaching the baptism of repentance for the remission of sins. The Resolution: And, a Conjunction Copulative: he, a Pronoun, third Person Singular, Masculine Gender, Nominative Case, standing for John: came, as before: into, a Preposition: all, an Adjective: the Country, a Substantive: about, a Preposition; Jordan, a Proper Name; preaching, the Present Participle of the verb Active to preach joined like an adjective to the Pronoun he: the baptism, a Substantive in the Objective Case following the Active verb Preaching, and governed by it, etc."⁷⁶

It requires but a glance at the contents of the grammars which began instruction of the subject in America to see how this formalism of parsing reigned supreme. The British Grammar believes in parsing every word;⁷⁷ Murray advertises a new system of parsing.⁷⁸ Gould Brown was perhaps the most ardent champion of parsing in America. He explains the philosophy of the exercise in this:

[It is] neither wholly extemporaneous, nor wholly by rote; it has more dignity than a school boy's conversation, and more ease than a formal recitation. The exercise in parsing commences immediately after the first lesson of etymology, and is carried on progressively until it embraces all the doctrines that are applicable to it. . . . It requires just enough of thought to keep the mind attentive to what the lips are uttering; while it advances by such easy gradations and constant repetitions as to leave the pupil utterly without excuse, if he does not know what to say."⁷⁹

Brown further insists that in the entire range of school exercises, while there is none of greater importance than parsing, yet, perhaps, there is none which is, in general, more defectively conducted. Brown's grammars are the culmination of the series of parsing grammars; in the last chapter we have seen them in use quite extensively in the academies of New York as late as 1870.⁸⁰ Brown champions parsing on one ground which has an entirely modern ring. He wishes to have the child given something to do as well as something to learn.⁸¹

Elaborate formulas of procedure reduce all to a system, so that by rote correcting and parsing the whole process may be made easy. This makes the exercise free from all embarrassment, which is conducive to proficiency in language. Says this master of parsing:

The pupil who can not perform these exercises both accurately and fluently . . . has no right to expect from anybody a patient hearing. A slow and faltering rehearsal . . . is as foreign from parsing or correcting as it is from elegance of diction. Divide and conquer is the rule here, as in many cases. Begin with what is simple; practice it until it becomes familiar and then proceed. No child ever learned to speak by any other process. Hard things become easy by use, and skill is gained little by little."⁸²

⁷⁶ Murray, 47.

⁷⁷ British, preface, VI.

⁷⁸ Murray, preface, 6.

⁷⁹ Brown, preface, VI.

⁸⁰ See Chap. IV.

⁸¹ Brown, preface, V.

⁸² Brown, Gram of Gram., preface, V.

This in a nutshell is the philosophy of grammar from Lily down to almost 1900. Grammar is the art of speaking and writing the English language; the child learns to speak by getting first the elements. A constant process of dividing wholes into parts, even to the letters as a starting point, is the natural and logical method for teachers who will start their pupils rightly. As written and spoken language is accomplished by the putting together of parts, so the taking of them apart is the initial step of the learning process. Parsing and correcting involve this extremely analytical philosophy. Therefore they are the best methods of learning. Moreover, parsing is looked upon as a—

critical exercise in the utterance as well as of evidence of previous study. . . . It is an exercise for all the powers of the mind, except the inventive faculty. Perception, judgment, reasoning, memory, and method are indispensable. . . . Nothing is to be guessed at, or devised, or uttered at random.”

Here we have the second step in the logical process of the parsing enthusiasts. The first rests on the natural analytical process as the basis of learning the parts of complicated wholes. The second is the logical result of the old faculty psychology. The powers of the mind, in order to be trained in the extremest sense of formal discipline, are exercised by the analytical procedure of tearing wholes into parts. This applies to all of the powers of the mind except invention, which is supposed to be a constructive, not an analytical, process. The reduction of parsing to strict models makes certain the elimination of invention on the part of the pupil. There is little doubt that the statement of Gould Brown, cited above, is the essence of the pedagogical thinking which regarded grammar as “the disciplinary study par excellence.” It is a result in large part of the reign of faculty psychology and formal discipline.

5. FALSE SYNTAX.

The practices of the Latin and the rote periods added another bane to schoolboy life, namely, the correction of false syntax. This appears to have been generally introduced about the middle of the eighteenth century, the first to use it being Fisher and the author of the *British Grammar*. These writers are followed by all the others in our series, each seeming to be more convinced of the pedagogical value of the exercise than any of his predecessors. The author of the *British Grammar* asserts that his book is “differently planned,”⁸⁴ because it offers “promiscuous exercises in false syntax, both in verse and in prose.”⁸⁵ He also urges the master to deceive his pupils by reading wrongly.⁸⁶ Fisher also urges the master to “read falsely,”⁸⁷

⁸⁴ Ibid.

⁸⁵ *British*, preface, I.

⁸⁶ Ibid., III.

⁸⁷ Ibid., XV.

⁸⁸ Fisher, preface, XII.

to keep the pupils alert, and defends himself for putting his exercises in false syntax in a separate part of his book instead of scattering them "promiscuously" throughout the text.⁸⁸

Lowth believes in teaching "what is right, by showing what is wrong." He thinks there is no English grammar which sufficiently performs this duty, though it may prove "the more useful and effectual method of instruction."⁸⁹ Two examples of Lowth's false syntax follow:

Rule: The article, a, can only be joined to Substantives in the Singular number. A good character should not be rested in as an end, but employed as a means of doing still further good. (Atterbury's Sermons.) Ought it not be a mean? I have read an author of this taste, that compares a ragged coin to a tattered colours. (Addison on Medals.)⁹⁰

The foregoing amusing example of extreme emphasis put upon a perfectly trivial point is especially ludicrous, because Lowth is wrong. Both the sentences from Atterbury and Addison are correct; in the first, means is a singular noun; in the second "colours," meaning flag, is also singular.

The other example has to do with choose, chose, chosen:

Thus having chosed each other. . . . (Clarendon, Hist., Vol. III, p. 707, 8vo.) Improperly.⁹¹

Lowth complains that in 200 years English had made "no advances in grammatical accuracy." He quotes Swift "On the imperfect State of our Language"—that "in many cases it offended against every part of Grammar." He asserts that in his day "Grammar is very much neglected," and fills the bottom of nearly every page with footnotes of what he terms proof "that our best authors have committed gross mistakes for want of due knowledge of English Grammar." Lowth assures us that these examples "are such as occurred in reading, without any very curious or methodical examination." It is a curious speculation, then, as to why Lowth advocates so vigorously the teaching "of what is right by showing what is wrong." It may be that he was eager to make use of the copious notes which he had doubtless been accumulating in years of reading.⁹² He is impartial in his selection of false grammar, citing Hobbs, the Bible, the Liturgy, Pope, Shakespeare, Prior, Hooker, Dryden, and Addison.⁹³

⁸⁸ Ibid., X.

⁸⁹ Lowth, preface, X.

⁹⁰ Lowth, op. cit., 19.

⁹¹ Ibid.

⁹² Ibid., preface, I-X.

⁹³ "You was . . . is an enormous Solecism; and yet authors of the front rank have inadvertently fallen into it. 'Knowing that you was my old master's friend.' Addison, Spectator, No. 517. 'Would to God you was within her reach.' Lord Bolingbroke to Swift, letter 46, etc." In these footnotes Lowth's practice is somewhat of a deviation from correcting false syntax. Op. cit., 35.

Priestley approves of Lowth's methods, as follows:

An appendix would have been made of examples of bad English; for they are really useful; but they make so uncouth an appearance in print. And it can be no manner of trouble to any teacher to supply the worst of them, by a false reading of a good author, and requiring his pupils to point out, and rectify his mistakes. . . .¹⁴ I think there will be an advantage in my having collected examples from modern writings, rather than those from Swift, Addison, and others, who wrote about half a century ago, in what is called the classical period of our tongue. By this means we see what is the real character and turn of the language at present; and by comparing it with the writings of preceding authors, we may better perceive which way it is tending, and what extreme we should most carefully guard against.¹⁵

William Ward also commends Lowth's method:

Very lately we have been favored with one (grammar) by the learned Dr. Lowth. . . . This Piece is excellent on account of his notes, in which are shewn the grammatic inaccuracies that have escaped the pens of our most distinguished Writers. This way of distinction, by showing what is wrong in English in order to teach us to avoid it, is necessary, because the pupils will themselves offend against every rule: there will be plenty of opportunity to shew them what is wrong.¹⁶

Again, we have the testimony of that high priest of parsing and false syntax, Gould Brown: "Scarcely less useful . . . is the practice of correcting false syntax orally, by regular and logical form of argument."¹⁷ Murray also believes in the practice, as will be seen from the following quotation:

From the sentiment generally admitted, that a proper selection of faulty composition is more instructive to the young grammarian, than any rules or examples of propriety that can be given, the compiler has been induced to pay particular attention to this part of the subject; and though the instances of false grammar, under the rules of Syntax are numerous, it is hoped they will not be found too many, when their variety and usefulness are considered.¹⁸

The above examples are to be corrected orally.

Fisher thinks that he is the first to introduce English exercises in false syntax. He says that the practice was considered expedient in Latin and mentions two Latin texts of his day which have the device. He says: "I never observed this method recommended or prescribed by others."¹⁹ It will be remembered that Fisher antedates Lowth, the British Grammar, and Priestley. The British Grammar improves on Fisher, the author of that book thinks, by scattering false syntax throughout the text and putting the errors in italics, not "to distract the learner too much."²⁰

6. SUBORDINATE METHODS.

There can be no doubt that the grammars which determined the earliest instruction in the subject in America put a premium upon the

¹⁴ Priestley, preface, XXII.

¹⁵ Ibid., XI.

¹⁶ Brown, preface, 4.

¹⁷ Murray, preface 8.

¹⁸ Ward, op. cit., preface, IX.

¹⁹ Fisher, preface, XXI.

²⁰ British, preface, IV.

three major methods of teaching we have just been considering, viz: Memorization of rules, parsing, and correcting false syntax. All three, except possibly the last, are direct inheritances from the classrooms of Latin grammar, and if we can believe Fisher, as cited above, the latter was inherited also. We have now to consider certain minor methods. It must be borne in mind that grammar included in 1800 far more than it does to-day. It was instruction in the use of the mother tongue, embracing many of the purposes served to-day by composition, rhetoric, writing, reading, euphonics, declamation, and the rest.

There is constant evidence as to the use of these additional functions of grammatical instruction. We may cite, for example, emphasis upon the parallel study of reading from authors in the mother tongue. This was to be the means of becoming familiar with good writers for the sake of observing good grammatical construction, as well as of getting lessons in morality, honesty, and goodness. Many of the grammars have appendices with fables, prayers, catechisms, and the like, which were prescribed as a regular part of the study called grammar. It is by no means improbable that in these parallel readings we have the origin of school practices which have to-day eventuated in the study of the English classics. Franklin, however, seems to have had in mind a larger purpose in his proposals, approaching in 1750 somewhat nearer our modern conception; that is, the English classics for their content as well as for literary excellence.²

Colet recommends the use of "prettie bookes" with "lessons of godlinesse and honestie." In the edition of 1627 he enjoins teachers to "be to them your own selves also speaking with them the pure Latin very present, and leave the rules."³

Dilworth feels that this reading will help make palatable what he calls "the pills of memorization."⁴ The author of the *British Grammar* gives his pupils a taste of the poets;⁵ Fisher has the master or one of the scholars read to pupils from the best authors.⁶ Ward uses the *Spectator* as a suitable classic and selects from easy books "examples for resolving,"⁷ while Priestley collects examples from

² See Chap. III, p. 44.

³ "For reading of good books, diligent information of taught masters, studious advertance and taking heed of learners, hearing eloquent men speak, and finally busy imitation with tongue and pen, more availeth shortly to get the true eloquent speech, than all the traditions, rules and precepts of masters." Lilly, *op. cit.*, 3.

⁴ "As Practice, in all Arts and Sciences, is the great Medium of Instruction between Master and Scholar. I would advise all Teachers, when they find their Learners relish the Rules of this Part (grammar) to enjoin them at the same time to read the best English Authors, as the *Spectator*, *Tatler*, *Guardian*, etc. . . . and banish from their eyes such *Grubstreet Papers*, *idle Pamphlets*, *lewd Plays*, *filthy Songs*, and *unseemly Jests* which . . . debauch the Principles." Dilworth, *preface*, VIII-IX.

⁵ *British*, *preface*, XXII.

⁶ Fisher, *preface*, X.

⁷ Ward, *preface*, X.

the best authors and indicates that he, too, believes in the device.⁸ Later authors seem largely to have given up recommending the practice, perhaps because formal grammar is to an extent becoming more confined in its scope.

Four other methods, or classroom devices, appear quite frequently: Emulation, preferments, copying, and dictation.

Brinsley is the champion of the first of these. He desires all to have their adversaries and to be so matched and placed that all may "be done by strift."⁹ Sewell has his pupils certify inaccuracies in each other's expressions, constantly correcting each other.¹⁰ Brown passes the errors of one pupil on to the next.¹¹ Here we seem to find indication of the practice "going to the head of the line," so often described by our fathers. Fisher was an especially ardent advocate of emulation.¹²

Similar in purpose, if not quite identical in practice, is the elaborate system of preferments described by Brinsley. This has continued in all teaching up to the present day. Brinsley describes his plans for encouragement in this wise: Promotions to higher classes; giving higher places to those who do better; commending everything well done; giving rewards to victors in disputation and applause to the victors; and comparing exercises in writing books.¹³ Copying might have been listed as a device for aiding memory. However, it seems to have been considered a means of stimulating interest, a sad commentary indeed upon the dry-as-dust processes which it could be thought to relieve. Typical advice is found in Fisher,¹⁴ in Dilworth,¹⁵ and in the British Grammar,¹⁶ urging masters to have pupils copy exercises in both prose and verse for their "evening copy."

Dictation is closely akin to copying and is even more frequent in the recommendations of the grammarians. Brinsley strongly recom-

⁸ Priestley, preface, XXIII.

⁹ Brinsley, op. cit., 50.

¹⁰ Sewell, preface, VII, VIII.

¹¹ "When a boy notes an impropriety in his schoolmate's Expression, he writes down the Expression just as it was uttered; then he adduces the Rule of Grammar from which the Expression deviates, and underneath he inserts the Expression corrected. For this Feat, he receives a Clap of Applause and takes his Place Superior to the Boy whose Expression he corrected."

The teacher should "carefully superintend . . . rehearsals; give the word to the next, when any one errs, and order the exercise in such a manner that either his own voice, or the example of the best scholars, may gradually correct the ill habits of the awkward, till all learn to recite with clearness, understanding well what they say, and make it intelligible to others."

¹² "After they are masters of letters, syllables, and words they will be able to remember Rules. . . . After reading they are to learn the stops and marks. . . . Employ time in writing Words down, whilst the Master, or one of the Scholars, reads a Paragraph from the Spectator . . . and let all that are appointed to write, copy from his Reading, then to create an Emulation, compare the Pieces and place the Scholars according to the Defect of their Performances." Preface, IX-X.

¹³ Brinsley, op. cit., 280 et seq.

¹⁴ Fisher, preface, X.

¹⁵ Dilworth, preface, IX.

¹⁶ British, preface, IV.

mended the practice.¹⁷ Fisher also ¹⁸ would have pupils keep alphabetical lists in pocketbooks, the use of which he constantly urges. The British Grammar is likewise in favor of the device.¹⁹ Sewell has pupils take dictation on their slates and then the teacher corrects it.²⁰ Dilworth also recommends the exercise.²¹

There remains to be noted the use of copy books, writing exercises, and oral work. Brinsley recommends "note books of daily use with inke," and requires each pupil to possess "a little paper booke to note all new and hard words in."²² Fisher gives extended directions for the use of copy books.²³

The British Grammar, elaborating the discussion of dictation, gives it the nature of a writing exercise. When a master dictates he may mix the rules, making the exercise as promiscuous as he chooses. Let a tyro "first copy the several Exercises, and then write them a second time from Dictation," then correct it and copy it again. The author advances this as a reason for making his book so short. He also commends the writing of an anonymous letter with the purpose that "One Exercise should be daily to write a Page of English, and after that to examine every word by the Grammar Rules; and in every Sentence they have composed, to oblige them to give an Account of the English Syntax and Construction."²⁴

Sewell requires pupils to write on their slates, and has in the appendix a chapter for practice in letter writing.²⁵ Ward has the study of grammar accompanied by the composition of short letters.²⁶ Brown gives four chapters of exercises adapted to the four parts of the subject, which are to be written out by the learner. "The greatest peculiarity of the method is that it requires the pupil to speak or write a great deal, and the teacher very little."²⁷

Fisher's book and the British Grammar are particularly emphatic in recommending oral work, the former making pupils pronounce

¹⁷ Brinsley. op. cit., 46 and 124.

¹⁸ Fisher, preface, VI.

¹⁹ British, preface, XIII.

²⁰ Sewell, preface, VII.

²¹ Dilworth, preface, VI.

²² Brinsley. op. cit., 46 and 124.

²³ "Let the Master write down all their mis-spelt words right in their Writing-Books, to be got by Heart before they leave them and withal, make each Scholar write his own into an Alphabetical Pocket-book kept for that Purpose." He also recommends that the master write misspelled words into the pupils' writing books. Perhaps we have in these books the germ of composition work which first came about 1750. Fisher, preface, XI.

²⁴ British, IV, VI, XIX

²⁵ "Now and then as a General Exercise, I make my pupils write down on their Slates a select sentence, as I dictate to them; each one keeps his Performance close to himself. On Examination those whose Performances appear correct, are ranked in a Superior Place, and to prove that they have written correctly, by dint of Judgment, and not as the Effect of Chance, I make them rectify the Error of Inferior Boys, by quoting the Rule of Grammar, from which each Error is a Deviation." Sewell, preface, VII. The appendix for letter writing is on page 163 of Sewell's Grammar.

²⁶ Ward, preface, X.

²⁷ Brown, preface, VI.

orally in prosody,²⁸ the latter requiring them to speak every day their unwritten thoughts.²⁹

7. METHODS USED BY HUGHES AND BYERLEY.

So far the endeavor has been to show how the methods of teaching grammar in the Latin and rote periods were, with but slight variation, the methods used in instruction in Latin grammar. This chapter may fittingly close with a description of methods used in two prominent English grammar schools in New York in 1769 and 1773, respectively. Fortunately, Hugh Hughes and Thomas Byerley have left careful explanation of their methods. The description of these masters is also strong evidence that English grammar was coming to occupy in a few American schools a position very closely resembling that held by Latin grammar in classical schools, indeed, that identical methods were employed in the teaching of both.

HUGHES.

In 1771 Hughes modified his program, at least he so claims, to lay greater stress upon English. His advertisement of that year reads: "Orthoepy, or Just Pronunciation, which the Pupil is taught, not by Precept alone; but by Occular Example . . . with proper Stops. Emphasis, Cadence, Quantity, and a Delivery, varied and governed by sense."³²

In 1771 Hughes had changed his program into that of a thorough-going English grammar school. On December 30 he announces: "The Subscriber proposes, if encouraged, to teach the English Language Grammatically." It is to be noted here that the method proposed is probably unfamiliar, or at least not common, in New York and that "if encouraged" indicates the dependence of private-school men upon the desires of patrons, of which concerning his new proposal he is somewhat in doubt. Hughes thus describes his methods:

When the pupil can read fluently and write a Legible Hand he shall be taught the English Accidence,³³ or the Properties of the Parts of Speech, as divided and explained by the latest and most eminent English Grammarians; that is Dr. Lowth. Dr. Priestley, and others.

After which he will be taught to parse disjunctively, then modally, and instructed in the Rules of English Syntax: and, when he is sufficiently skilled in them, to account for the Construction of Sentences in General, he will receive Lessons of False Spelling and Irregular Concord, etc., taken from some classic Authors, but rendered ungrammatical for the Purpose of trying his Judgment. When he has reduced these as near the Original as his Knowledge of Grammar will permit, he will be shown all such irregularities as may have escaped his Notice. either in the Orthographical or Syntactical Part.

²⁸ Fisher, preface, XI.

²⁹ British, preface, XXVIII.

³² N. Y. G. and W. P. B., Dec. 30, 1771.

³³ It is to be noted that the study of English grammar begins exactly where that of Latin grammar began.

These Lessons will also be selected from different Authors in various Subjects; and frequently, from the Works of those who are the most Celebrated, for the Elegance of their Epistolary Writings; as this Kind of Composition is acknowledged to be as difficult as any, and of greater Utility. The erroneous Part in every Lesson will likewise be modified. At one time it will consist of false Spelling alone; . . . at another of false Concord; . . . the next perhaps will consist of both; . . . the fourth may not be composed of either of them, but may contain some Inaccuracies or Vulgarisms, etc.; the fifth may retain all the foregoing Inproprieties, and the last, none of them, of which the pupil need not be appraised, for Reasons, that are too evident to require a Recital. To the preceeding exercises will succeed others on the Nature and Use of Transposition; . . . the Elipses of all the Parts of Speech, as used by the best Writers, together with the use of Synonymous Terms. . . .

A General Knowledge of all which, joined to Practice, will enable Youth to avoid the many orthographical Errors, Barbarisms, inelegant Repetitions, and manifest Solecisms, which they are otherwise liable to run into, and in Time, which render them Masters of an easy, Elegant Style, by which they will become capable of conveying their Sentiments with Clearness and Precision, in a concise and agreeable Manner, as well with Reputation to themselves as Delight to their Friends.

Lastly, tho' the Pointing of a Discourse requires Judgment and a more intimate Acquaintance with the Syntactical Order of Words and Sentences, than the Generallty of Youth can be possessed of, to which may be added the unsettled State that Punctuation itself is really in; so that very few precise Rules can be given, without numerous Exceptions, which would rather embarrass the Pupils by continually searching of their Dictionaries, in quest of Primitives and their Derivatives, as well as the constituent Parts of Compound Terms; besides learning the Dependence that their Native Language has on itself; will also treasure up in their Memories a vast Stock of Words, from the purest Writers; and what is of infinitely more Value, their just Definitions; as every one of this Class will have Johnson's Dictionary in Octavo.³⁴

BYERLEY.

Byerley is the author of the second grammar written by an American and published in this country, "A Plain and Easy Introduction to English Grammar," 1773. In the same year we find him advertising an English grammar school in New York City, giving a detailed record of the methods of teaching used in his various classes.

Byerley, like Franklin and other American champions of the mother tongue, had been reading John Locke.³⁵ In the advertisement of his school, he sets forth the necessity of giving up the study of Latin for the purpose of learning English grammar, quoting Locke

³⁴ Advertisement in N. Y. G. and W. P. B., Dec. 30, 1771.

³⁵ Byerley, after quoting Locke and Lowth, continues: "Heretofore it was thought a competent knowledge of the English could not be acquired without some previous acquaintance with the Latin Tongue: which therefore became the only Vehicle of grammatical instruction. This error arose from a too partial Fondness for that Language, in which formerly the Service of the Church, the Translation of the Bible, and most other Books were printed. . . . Men, however, too often sacrifice their Understandings at the shrine of Ancient Custom. Thus the Practice of sending Youths to learn English at a Latin

at length on the unwisdom of compelling a lad to learn "the Roman Language" when he is at the same time designed for a "trade."²⁶ There can be little doubt that the seeming practicability of English grammar and of the so-called English education in general—a contention first advanced by Locke—was the most powerful argument for the vernacular.

After thus setting forth his reasons Byerley sketches his plan for "An English Grammar School which will be opened the first of next month."²⁷ This title, like Hughes's, which was called "An English Grammar and General School, indicates that there were attempts to establish English schools on the same order as the secondary grammar schools heretofore known in the colonies.

In the lowest Class will be arranged the Children who have been but imperfectly taught to read; with whom the Utmost Care shall be taken to correct ill Habits in Reading; and to form a just Pronunciation.

In the next Class the Scholar shall be initiated in the grammatical Institutes; and these strongly fixed on the Mind by frequent Parsing of the most approved Lessons.

The third will introduce the scholar to an Acquaintance with the Syntax and Ellipsis; each of which shall be inculcated in a Course of reading such books as may engage the young Attention, and have a moral Tendency; as *Æsop's Fables*, *The Moral Miscellaney*, *The British Plutarch*, *Gay's Fables*, *Beauties of History*, or *Pictures of Virtue and Vice*.

In this Class the Scholar will be frequently exercised in the Declension of Irregular and defective Verbs, and the Exercises of Parsing will be continued.

The fourth Class will be formed out of those Scholars who being most proficient in their grammatical Exercises are ready to be instructed in a proper and elegant Method of reading Prose.

The books used in this Course, will be chiefly *History of the World*, *History of English*, *Introduction to Polite Learning*, *Seneca's Morals*, *Ancient History*, *History of America*, *Derbam's Physics*, and *Astro-Theology*, *Economy of Human Life*.

In the fifth Class the scholar will be initiated in the Proprieties and Beauties of reading Poetry, exemplified in the Works of Thomson, Gray, Pope, and Milton.

The Scholars of the fourth and fifth Classes will be occasionally instructed in the Art of familiar Letter writing.

SUMMARY OF METHODS IN THE LATIN AND ROTE PERIODS.

What then may be concluded concerning the methods of the years 1750 to 1823 in America?

School continued, without any inquiries about the Propriety of it, till Mr. Locke ventured to censure the conduct of a Father who should waste his own Money and his Son's Time in Setting him to learn the Roman Language." . . .

Byerley was a disciple of Locke in matters of discipline also. At the end of his advertisement he gives "Rules," "on the Model of Mr. Locke, a New Mode of Reprehension for Irregularities and a loitering Study, will be adopted. The several Methods at present taken in most Schools . . . are oftener attended with bad than with good Consequences. It shall be my care to reason or shame them out of their Faults by affectionate Arguments with them; or in the Extremity, a public Disgrace among their Fellows."

²⁶ The title Hughes's *English Grammar and General School* appears in 1773 announcement. N. Y. G. and W. M., Nov. 8.

²⁷ Byerley advertisement in N. Y. G. and W. M., Aug. 23, 1773.

1. The textbooks in most general use were modeled strictly after the Latin, and their authors advised methods of instruction which had been used in teaching Latin grammar for 300 years.

2. The common conception of grammar—as the art of writing and speaking a language with correctness and propriety—was one which confused the nature of grammar with the laudable purpose of teaching it and obtained, with few exceptions, throughout the two periods.

3. Instruction proceeded without exception from the wrong unit—the word. This was the natural result of the seemingly logical process of beginning with the simplest elements and proceeding to the complex. In reading and in grammar, because of this procedure, the A-B-C method was destined to remain fixed until the revival led by Horace Mann. All the grammars began with the parts of speech.

4. There was but little connection between the parrotlike repetition of rules and any real understanding of them.³⁸

5. Relatively little effort in writing or speaking was made to apply the rules of grammar. William B. Fowle, the editor of *The Common School Journal*, writing of his own education about 1800, said:

We were educated at one of the best schools . . . but, although we studied English grammar seven years and received a silver medal for proficiency, we never wrote a sentence of English at school, and never did anything that had to do with writing or conversation.³⁹

The common procedure was in theory from rules to practice; but it was practice involved in the application of formidable exercises of syntax, etymology, and parsing and endless exercises in correcting false syntax. It is true that in dictation, writing exercises, and speaking we have seen, in embryonic form, the beginnings of our modern composition and literature; but these were strictly subordinated to the all-powerful trilogy of methods—memorization, parsing, and false syntax.

In short, from the viewpoint of the best modern practice, before 1823, English grammar was badly taught in every respect. The nature of the textbooks themselves is enough to warrant that conclusion; but when the evidence is added of the wretched incompetence of teachers⁴⁰ and the corroborating testimony of every man who was a student of grammar during that period assurance is rendered doubly sure. In almost the same terms Brinsley uses for his own school in 1620 he might have described the practices of Hughes's and Byerley's schools a century and a half later.

³⁸ An observer, speaking of 1820, says: "Grammar has been extensively introduced. . . . Children are required to commit the grammar to memory. This was the study of grammar. . . . It may be said . . . that scarcely anyone understood anything he passed over."

³⁹ Editorial, *C. S. J.* (1849), 258. Fowle was the editor of two rather obscure grammars in the period which turned the study toward the science of sentences and the practice of writing.

⁴⁰ See Chap. IV, pp. 92 et seq.

Chapter VI.

GRADUAL CHANGES IN METHOD BEFORE 1850.

In the preceding chapter we have seen the methods used in teaching Latin grammar transferred with slavish imitation to English. In brief, grammar was looked upon as the art of speaking and writing correctly. This art was to be acquired by learning page after page of rules by rote,⁴¹ of which no application whatever was made by the pupils.⁴² Memorizing came to be supplemented by parsing according to strict Latin methods⁴³ and by correcting endless examples of false syntax.⁴⁴ Moreover, the question-and-answer method, putting a premium on verbatim recitation of memorized parts, prevalent before 1800, had not entirely disappeared in 1830.⁴⁵ Grammar was begun by very young children and was accompanied by no oral discussion and by no composition. Teachers were very deficient.⁴⁶ The result of these methods was little more than a mystification of the pupils, with no appreciable improvement in grammatical accuracy.⁴⁷ In short, the early instruction in grammar in America up to the end of the first quarter of the nineteenth century proceeded on the wrong basis—that of inflections; it began with the wrong unit—the word, and it followed entirely erroneous methods of study in proceeding from theory and rules to practice instead of reversing the process.⁴⁸

⁴¹ J. T. Buckingham, *Am. J. of Ed.*, 13, 132; Noah Webster, *ibid.*, 26, 196; W. K. Oliver, *ibid.*, 218.

⁴² Wallis, *Com. Sch. J.* (1850), 5.

⁴³ As indicating the Latin extreme, Murray's Grammar makes possible 60 forms in the pluperfect tense of the subjunctive mood.

⁴⁴ This seems to have been introduced by Lowth's Grammar in 1758.

⁴⁵ Wallis, *op. cit.*, 85; Wickersham, *Hist. of Ed. in Pa.*, 206; *Am. An. of Ed. and Ins.* (1832), 268.

⁴⁶ See Chap. IV, p. 92.

⁴⁷ Rept. Committee Common Schools, Conn., *Am. An. of Ed. and Ins.* (1832), 247.

Horace Mann said in 1827: "It is not a perfect knowledge of a treatise on grammar or a surprising fluency in parsing that will serve to produce . . . correctness in expression." *Am. An. of Ed.* (1827), 681-2.

⁴⁸ W. C. Woodbridge, a prominent schoolman of Boston, says: "Nothing is more common than for children to recite it (the grammar), in course, *two* or *three* times. In many of our schools, a portion of the day, through the greater part of one winter term of three or four months, is devoted to committing to memory the rules and definitions of etymology." He makes the following amusing calculation: "The average time spent in committing grammar, as it is called, to memory, is at least one month to each pupil concerned; and this time is entirely lost. New England contains 1,954,562 inhabitants, about one-fourth of whom are between 4 and 16 years of age. One scholar in ten . . . commences the study of grammar every year. The amount of time lost annually is equivalent to 4,072 years." Then, estimating the cost of schooling as \$1.50 a week, he adds: "The value of the time would thus be \$317,616. . . . Let this waste be continued every year for 30 years, and the amount is nearly ten millions of dollars." *Am. J. and An. of Ed. and Ins.* (1831), 170-1.

The ensuing period between 1823 and 1847, called above the parsing period, was a time of conflict between the traditional ideals and methods just mentioned and innovations fostered largely by the trend toward inductive study which characterized some school practices of that day. During this period four grammatical textbooks dominated the field. In 1823 Samuel Kirkham published in New York his "New and Systematic Order of Parsing" and in 1825 his "English Grammar in Familiar Lectures." In the same year and State Gould Brown published his "Grammatical Institutes." Peter Bullion's Grammar of 1834 was the third. Roswell Smith's two books—his grammars on the inductive and on the productive systems, respectively—had appeared in 1829 and 1831. Smith was a Massachusetts author; Bullion lived in New York. These four texts we have seen were fairly successful in outdistancing all rivals by 1830, almost entirely displacing Murray and Webster⁴⁹ with their imitators.

At the end of the period upon which we are entering William H. Wells, with his "School Grammar," of 1846, and Samuel S. Greene, with "The Analysis of Sentences," of 1847, appeared upon the scene. These men produced the first of those texts which, after the middle of the century, were to bring about still another revolution in principles and school practice. They were the culmination of the influences which we shall see at work during the 25 years preceding them, ushering in permanently the conception of grammar as a science of sentences.⁵⁰

The present chapter endeavors to trace the most important influences which produced the breaking away from the conception of grammar as an art and prepared the way for the conception of it as a science, a state finally attained by 1850. It will treat also the accompanying changes in methods of teaching before that date.⁵¹ The second quarter of the last century was by far the most interesting and important period in grammatical instruction, surpassed in inter-

Woodbridge is writing of the year 1830. In a Virginia elementary school of 1847 the rule in grammar was: "Commit the big print the first time; on the second review the big and little print, *verbatim*. So I went through Smith's Grammar on the Productive System. (What it produced in me Heaven only knows.) Almost all lesson-getting was by heart." E. S. Joynes, quoted, Heathwole, *Hist. of Ed. in Va.*, 111.

⁴⁹ See Chap. IV, p. 86. Smith's Grammars were used more than all others combined in Massachusetts during these decades. Bullion, Brown, Smith, and Kirkham divided the grammatical field of New York about evenly among them.

⁵⁰ Wells defines grammar as "the science which treats of the principles of grammar. English grammar teaches [not is] the art of speaking and writing the English Language correctly." *Sch. Gram.*, 25. Greene says: "English grammar teaches the principles of the English Language." *Analysis*, 203. By 1850 the conception of grammar as a science was firmly fixed in school practice. Even Gould Brown, who in 1823 had defined "English Grammar is the Art of Speaking and writing the English language correctly" (*Institutes*, 15), modified his definition to conform to the newer conception in 1851. *Gram. of Gram.*, 45.

⁵¹ The advance in methods after 1850, beginning with Wells and Greene, carried on later by Swinton, Swett, and others, is reserved for another study.

est only by the movement on foot at the present time, by which grammar is being relegated to its proper place as a purely incidental study.

1. THE NATURE OF THE DOMINATING TEXTBOOKS, 1823-50.

Samuel Kirkham's two books, particularly his "Grammar on the Productive System," reached enormous popularity, especially in New York and adjoining States.⁵² In several important respects Kirkham's textbooks differ from Murray's, which they did so much to displace. They made a decided advance in methods of teaching. First, Kirkham illustrates in a series of familiar talks the various rules and definitions in an endeavor to bring them within the comprehension of the learners;⁵³ second, he introduces an imposing new system of parsing.⁵⁴ The chief innovation in his parsing, as differing from Murray and Webster, is that Kirkham introduces it very early in his study, immediately after his treatment of nouns and verbs, while the older grammarians postpone the subject until the pupil had mastered 160 pages (in Murray) of etymology and syntax.⁵⁵ Kirkham's third innovation is his use of a series of devices for recognizing the various parts of speech and their functions in a sentence.⁵⁶

These three innovations are designed to accomplish two purposes which seem to have been largely unrecognized by the grammars of the preceding periods, namely, the intelligent understanding by the pupil of the parts he was learning and immediate self-activity on the pupil's part in practicing the new principle just as soon as he has acquired it. Remembering now that "stick close to the book" was the order of the day, it is easy to infer what the influence of Kirkham's methods must have been in school practice.

⁵² See Chap. IV, p. 84.

By 1835 the second book is said to have reached its one hundred and seventh edition in New York. Barnard, *Am J. of Ed.*, 14, 763.

The writer is using a book called "English Grammar by Lectures," Joseph Hull (first edition, Boston, 1828), seventh edition, Mayfield, Ky., 1833. In a note the author says that Kirkham stole his plan of procedure from him. Hull uses the same order of parsing as Kirkham, namely, by transposition. He says: "This order and these rules have been copied by some writers on English Grammar and presented as original. But a reference to the date of the author's copyright . . . in the forty-sixth year of the Independence of the United States (1821) will prove it to be a plagiarism." Preface, XIV. We do not pretend to pass on the merits of the claim. There is evident truth that either Hull copied Kirkham, or vice versa; the grammatical treatment of both is on an entirely different plane from that of earlier writers we have seen. However, although the case looks bad for Kirkham, it was certainly he, not Hull, who was influential in spreading the new movement.

⁵³ For example: The nominative case is the actor, or subject of the verb; as, John writes. In this example, which is the verb? You know it is the word *writes*, because this word signifies *to do*; that is, it expresses *action*; therefore according to the definition, it is an *active* verb. And you know, too, that the noun *John* is the *actor*, therefore John is in the *nominative* case to the verb writes. *Eng. Gram. in Fam. Lect.*, 43.

⁵⁴ "The Order Of Parsing a Relative Pronoun is—a pronoun, and why?—relative, and why?—gender, and why?—Rule.—Case, and why?—Rule.—Decline it." *Ibid.*, 113.

⁵⁵ It is only fair to say that editions of Murray's Abridgment after 1820 also place parsing immediately after each exercise but in a much more rudimentary way.

⁵⁶ Any word that will take the sense of "the" before it is a noun. Any word which will make sense when preceded by "to" is a verb, etc. *Ibid.*, 31, 44.

Kirkham remarks concerning his innovations: "All (earlier writers) overlooked what the author considers a very important object, namely, *a systematick order of parsing*; and nearly all have neglected to *develop* and *explain* the principles in such a manner as to enable the learner, without great difficulty, to comprehend their nature and use."⁵⁷ He disclaims originality in subject matter, admitting frankly that he copied Murray, but claims great credit for changes in presentation and in method.⁵⁸ We may conclude that Kirkham's main attack was on purposeless rote memorization, aiming, as he did, to make the pupils understand what they learned, and that while he retained parsing and the correcting of false syntax he made definite attempts to compel practice to accompany learning step by step.

Smith's Inductive and Productive Grammars, 1829 and 1831, were produced frankly on the leading principles of Pestalozzi. This principle Smith states as follows:

The child should be regarded not as the mere recipient of the ideas of others, but as an agent capable of collecting, and originating, and producing most of the ideas which are necessary for its education, when presented with the objects of facts from which they may be derived. . . . Such is the productive system, by which the powers of the pupil are called into complete exercise by requiring him to attempt a task unaided, and then assisting him in his own errors. . . . They distinguish carefully between knowledge and the means of perceiving it. . . ."⁵⁹

The pretentious idea of the productive system, when worked out in practice, is not at all impressive. Throughout the book the productive method amounts to putting in the text explanations which the teacher might have made orally.⁶⁰ The productive approach to rule

⁵⁷ Ibid., 9.

⁵⁸ "The systematick order laid down in this work, if pursued by the pupil, compels him to apply every definition and every rule that appertains to every word he parses without having a question put to him by the teacher. . . . The author is anxious to have the absurd practice . . . of causing learners to commit and recite definitions and rules without any simultaneous application of them to practical examples immediately abolished." Ibid., 11.

⁵⁹ Preface, stereotype ed., Philadelphia, 1838, 5, 6.

Smith's Productive is really three grammars in one. Part I, covering 40 pages, contains the parts of speech and treats 11 rules of syntax. Part II, intended for the next higher class, covers (pp. 41-96) exactly the same 11 rules, going into much more detail, with more elaborate parsing, and adding exercises in syntax, together with sentences to be corrected. It adds more rules, completing 22 rules of syntax. Part III is entitled "Syntax", and is really a rearrangement of Murray's large grammar. Murray's 22 rules are given in order, with his treatment of each. Above each of Murray's rules Smith places the number of his rule which corresponds, adding nine to the list. This part might have been used by a pupil in his third year of grammar. The fact that it included three grammars in one may have accounted for the popularity of the book in part; under one cover is material for three consecutive years of grammatical study, the second and the third each being an elaboration of the preceding.

⁶⁰ I. Of the Noun.

Q. What is your name?

Q. What is the name of the town in which you live?

Q. What does the word noun mean?

Ans. The word noun means name.

Q. What then may your name be called?

9—two negatives in the same sentence are equivalent to an affirmative—runs in this wise:

Negative means denying; and affirming, asserting or declaring positively. A sentence in which something is denied is a negative one, and a sentence in which something is affirmed . . . is an affirmative one. . . . The phrase, "I have nothing," has one negative, and means, "I have not anything." The phrase "I have not nothing" . . . must mean . . . "I have something."

Then follows the rule. Smith's idea is good, but when the objects dealt with are words which are mere symbols of meanings, when the objects dealt with are grammatical relationships and merely logical concepts, the method for a textbook becomes extremely laborious. It is formal, stiff, and heavy. However, his efforts at explanation and self-activity on the part of the pupil were pioneer attempts in a difficult field. At the close of this period much of the laborious explanation placed in the books of Kirkham and Smith is left to the teacher in the form of "Oral Instruction."⁶¹

In quite another direction lies the real merit of Smith's innovations. He has one set of exercises running throughout his text, which constitutes a decided step in advance. This is a series entitled "Sentences to be written." For example, "Will you write one sentence describing the business of an instructor?"⁶² One, the business of a doctor? One, the business of a lawyer? One of a surgeon. . . . One, of the directors of a bank."⁶³ This pioneering in the field of sentence building renders him worthy of a place of high honor. Of course composition was not unknown, but the writer has seen no serious attempts earlier than Smith to use it in close association with grammatical instruction. This sentence building is one of the most promising innovations in any textbook up to 1831.

Smith adds one other feature worthy of mention. At the foot of each page he places a set of questions covering the principles developed on the page. Presumably many a class recitation consisted in the teacher's reading these questions and receiving corresponding answers by the pupils. This in reality was a backward step. The very necessity of framing a suitable question compels the teacher to think, provided of course the recitation consists of anything more than memorizing work. Smith scatters parsing and false syntax throughout his books, as do all the important texts of the period with which the writer is familiar. All follow Kirkham's example.

Bullion's Grammar of 1843 contains nothing new; his one effort at advance in method seems to have been to make parsing shorter and

Ans. A noun.

Q. What may all names be called?

Ans. Nouns.

Q. Boston is the name of a place; is Boston a noun, and if so, why?

Ans. Boston is a noun because it is a name, etc. *Ibid.*, 7.

⁶¹ See p. 146.

⁶² *Ibid.*, 105.

⁶³ His spelling is incorrect.

simpler. His grammar parses the sentence "I lean upon the Lord," as follows: "I, the first personal pronoun, masculine or feminine, singular, the nominative; lean, a verb, neuter, first person singular, present, indicative; upon, a preposition; the, an article; Lord, a noun, masculine, singular, the objective, governed by upon."⁶⁴ In parsing, the pupil is urged to state everything belonging to the etymology of each word "*in as few words as possible*," always "*in the same order*" and "*in the same language*."

Bullion's idea of simplifying any part of the process in grammar was certain to arouse the bitter opposition of Gould Brown, who is at once the most scholarly, the most interesting, and the most exasperating grammarian encountered in this study. He is exasperating because of his sarcastic condemnation of the grammatical work of every prominent writer with whose books his own came in competition. Upon this simplifying plan of Bullion, Brown heaps the bitterest scorn, pointing out that Bullion omits (1) definitions of terms applied; (2) distinction of nouns as common and proper; (3) the person of nouns; (4) the words, number, gender, case; (5) the division of adjectives into classes; (6) the classification of words as regular and irregular, redundant or defective; (7) the division of verbs as active, passive neuter; (8) the words, mode, and tense; (9) the distinction of adverbs, as to time, place, degree, and manner; (10) the distinctions of conjunctions as copulative or disjunctive; and (11) the distinction of interjections as expressions of varying emotions.

The omission of these 11 points in parsing was highly irritating to Brown, who still remained in 1851⁶⁵ a worshiper of formalism. To Roswell C. Smith and Pestalozzianism in general Brown pays his respects in no gentle terms. Of "The Grammar on the Productive System" he affirms:

The book is as destitute of taste, as of method: of authority, as of originality. It commences with the inductive process, and after forty pages . . . becomes a "productive system," by means of a misnamed "Recapitulation" which jumbles together the etymology and the syntax of the language through seventy-six pages more. It is then made still more "productive" by the appropriation of a like space to a reprint of Murray's Syntax and Exercises, under the inappropriate title, "general observations." What there is in Germany or Switzerland that bears *any resemblance* to this misnamed system of English grammar, remains to be seen. . . . The infidel Neef, whose new method of education has been tried in this country, and with its promulgator forgot, was an accredited disciple of this boasted "productive school," a zealous coadjutor with Pestalozzi himself, from whose halls he emanated . . . to teach the nature of things sensible, and a contempt for all the wisdom of books. And what similarity is there between his method of teaching and that of Roswell C. Smith, except their pretense to a common parentage, and that both are worthless?⁶⁶

⁶⁴ Prin. of Eng. Gram., 74.

⁶⁵ Gram. of Gram., 92-3.

⁶⁶ The date of his Grammar of Grammars.

Thus does Brown discredit Pestalozzianism, with its oral and objective teaching, and vigorously assail those who began to doubt "the wisdom of books." Thus does he resent any effort to simplify or render more expeditious the mastery of grammar, whose principles he regarded with almost worshipful reverence. His own influence on school practices was decidedly conservative; he is the last of the old guard, the champion of traditional methods, believing that a knowledge of "the book itself will make anyone a grammarian." He declares:

The only successful method of teaching grammar is to cause the principal definitions and rules to be committed thoroughly to memory, that they may ever afterward be readily applied. Oral instruction may smooth the way and facilitate the labor of the learner; but the notion of communicating a competent knowledge of grammar without imposing this task is disproved by universal experience. . . . It is the plain didactic method of definition and example, rule, and praxis; which no man who means to teach grammar well will ever desert. . . . The book itself will make anyone a grammarian *who will take* the trouble to observe and practice what it teaches."

Thus, in an almost ludicrous way the champion of what he calls the "ancient positive method, which aims directly at the inculcation of principles" ⁶⁶ is blind to that fatal error of the traditionalists who thought that the book itself would make anyone a grammarian. They were right, if the assumption upon which the statement was made were true. The error of the traditionalists lies in this assumption. The connection between knowledge of the book, especially mere verbal knowledge and skill in practice, is remote. That this connection was not made in early American schools, was never made in any schools, and is not generally made to-day is the supreme criticism of the methods and practice of teaching grammar throughout its entire course in America.

No better summary of the tide of protest that was swelling up between 1825 and 1850 against this older conception can be desired than the following statement of Brown himself, made at the close of the period. His monumental "Grammar of Grammars," 1851, was written frankly to stem innovations in teaching the subject. Examining the common argument that the memorizing of definitions and rules, the knowledge of the arrangements and divisions of a highly Latinized grammar, has very little function in acquiring skill in the art of language, Brown says:

It [this argument] has led some men . . . to doubt the expediency of the whole method, under any circumstances, and either to discountenance the whole matter, or to invent other schemes by which they hoped to be more successful. The utter futility of the old accidence has been inferred from it and urged . . . with all the plausibility of a fair and legitimate deduction. The hardships of children, compelled to learn what they did not understand, have been bewailed

⁶⁶ Institutes, preface, VI.

⁶⁶ Gram. of Gram., 86.

in prefaces and reviews, and prejudices . . . have been excited against that method of teaching grammar, which after all, will be found . . . the easiest, the shortest, and the best. I mean, especially, the ancient positive method, which aims directly at the inculcation of principles."⁶⁹

Of the four leading grammarians of the period, then, we may say that Brown was distinctly a traditionalist. His contributions lay in a more accurate presentation of the subject matter of grammar in general. He was the last of the grammarians who would foist upon a concordless tongue all the intricacies of inflected languages and insist that a mere knowledge of abstract grammatical principles is effective in making good writers and speakers. He looked upon grammar as formal discipline par excellence. Bullion's contributions to new methods were very meager. Kirkham and Smith, forerunners of radical changes, attempted to employ principles of inductive teaching.

From almost the beginning of grammatical instruction in America there had been sporadic attempts to make grammar easy for young pupils. No fewer than 13 texts which were published before 1820 appear under the titles "Rudiments," "Grammar Made Easy," "Elements," "English Grammar Abridged," "Epitome of English Grammar," and the like. But this endeavor to make grammar easy is to be sharply distinguished from the attempts of grammarians whom Brown refers to as simplifying grammarians—men who, after 1823, endeavored to present by means of easily understood devices theoretical intricacies as found in Murray and Webster.

Even before the period under consideration Greenleaf, in 1819, published "Grammar Simplified, or Oracular Analysis of the English Language." Other titles indicative of this second line of endeavor are: Anonymous, 1820, "The Decoy, An English Grammar"; McCrady, 1820, "An English Grammar in Verse"; Ingersoll, 1821, "Conversations in English Grammar"; Hurd, 1827, "Grammatical Chart, or Private Instructor"; Patterson, 182—, "Grammar without a Master"; anonymous, 1830, "Pestalozzian Grammar"; anonymous, 1830, "English Grammar with Cuts"; anonymous, 1832, "Interrogative Grammar," and the like. In short, after 1820 there was manifest a distinct tendency, both among leading grammarians and humbler workers, to modify what had hitherto been an occult and laborious subject, to the end that it might be understood as well as learned verbatim.⁷⁰

⁶⁹ Ibid., 86.

⁷⁰ Gould Brown speaks characteristically of this entire tendency. "The vain pretensions of several modern simplifiers, contrivers of machines, charts, tables, diagrams, vincula, pictures, dialogues, familiar lectures, oracular analysis, productive systems, tabular compendiums, intellectual methods, and various new theories, for the purpose of teaching grammar, may serve to deceive the ignorant, to amuse the visionary, and to excite the admiration of the credulous . . . but no contrivance can ever relieve the pupil from the necessity of committing them (rules and definitions) thoroughly to memory. . . . The teacher . . . will be cautious of renouncing the practical lessons of hoary experience for the futile notions of a vain projector." Ibid., 91.

We have been speaking above of new tendencies and not of realizations in schoolroom practices. Abundant evidence is present that schools were very slow in conforming to the new methods. A few examples of the conditions which prevailed between 1823 and 1850 indicate that the larger part of grammatical instruction remained a slavish verbal repetition of rules and a desperate struggle with complicated parsing formulæ. This is the reason why it is appropriate to call the period "parsing period." Throughout there was devotion to what a Boston school committee of 1845 called more suggestively than elegantly "the osteology of language."¹¹

2. OTHER AGENTS AND AGENCIES IN THE INDUCTIVE APPROACH.

It is not generally known that Warren Colburn, known chiefly for his work in the field of arithmetic, prepared also a series of juvenile readers consisting chiefly of excerpts from Maria Edgeworth's stories.¹² To each of the series Colburn attached a few of the principles of grammar, and as the child completed his reading books he completed likewise a portion of grammatical knowledge suitable for young pupils. Colburn's principles of grammar took the form of instructions to teachers; they in turn imparted them to pupils. It will be noted that this is in essence the inductive approach, a decided

¹¹ Bos. Sch. Rept., 1845, 16.

1822. Charlotte Academy, North Carolina: "Some who began to memorize Grammar since the commencement of the session parsed blank verse with uncommon ease and propriety." Coon, N. C., Sch. and Acad., 1790-1840, 230; Western Carolinian, July 9, 1822.

1827. A class in Lincolnton Academy was examined on "Memorizing English Grammar." Ibid., 212. This is but little in advance of the practice of Wayne Academy in the same State, where (in 1818) "the fifth class was examined on English Grammar from the verb 'to have' to Syntax; the sixth class as far as the Substantive; the seventh as far as the Article, and the eighth to the verb 'to be.'" Ibid., 634, Raleigh Register, Oct. 9, 1818.

1828. Report of a committee on common schools, Connecticut. "Children may be found who have committed to memory their Grammar, their Geography, and the Introduction to the Spelling Book half a dozen times each and yet no wiser for practical purposes than before. . . . Grammar and Geography are committed to memory rather than taught for after years of study; . . . the pupils often have little or no practical knowledge of either, especially the former. This is due to the fact that the books themselves are not usually adapted to the pupils' capacity, partly to the ignorance of inexperience of the teacher." Am. An. of Ed. and Ins., 1832, 247-8.

1842. Fifth report of Horace Mann. "If the teacher is conversant with no better way than to put a common textbook of Grammar into the hands of beginners and to hear lessons recited by them day after day concerning definitions and rules while as yet they are totally ignorant of the classes of words defined . . . he surely has no aptness to teach grammar. The question is often asked, When or at what age children should begin to study grammar? If it is to be studied in the way described above, one would almost be tempted to reply, never." Com. Sch. J., 1842, 337.

1845. Boston school committee gave an examination to find grade of work done. "It would seem impossible for a scholar to parse a stanza of Childe Harold correctly and yet fail to see the force of the metaphors, etc., . . . yet this is done sometimes. Such is the power of close attention to the osteology of language, to the bones and articulations, in forgetfulness of the substance that covers, and the spirit that animates them." Bos. Sch. Rept., 1845, 16.

¹² These books were First, Second, Third, and Fourth Lessons in Reading and Grammar. Boston, 1831, 38, 44.

improvement over Roswell Smith's plan and in signal contrast to the traditional procedure. Colburn's four series of lessons in reading and grammar were not so widely used as his arithmetics. They did not lend themselves to the scheme of making grammar a separate study and were primarily for beginners. However, the prestige of his name and success in arithmetic attracted attention to his grammatical labors. His Pestalozzian methods, with emphasis on objective, oral, visual, explanatory, and simplified instruction, did much to lay the foundation for the educational revival which sprang up along inductive lines before 1850.⁷³

Colburn was influenced by one man whose importance is often neglected, his most intimate friend, James G. Carter.⁷⁴ Of him Barnard declares "to him more than any one person belongs the credit of having first arrested the attention of the leading minds in Massachusetts to the necessity of immediate and thorough improvement of the public schools."⁷⁵ Carter was instrumental in inducing Colburn to adopt inductive methods.⁷⁶ His advanced position in the philosophy of teaching grammar, as early as 1824, is remarkable. After setting forth the faulty practices of his day he adds:

The system proceeds upon the supposition that the language was invented and formed by the rules of grammar. Nothing is more false. A grammar can never be written till a good knowledge of the language is attained; and then, contrary to what the pupil supposes, the grammar is made to suit the language. Now, why neglect this natural method in teaching language to young learners?"

Again, "The schoolbooks . . . are certainly not written on the inductive method, and these are our instructors. . . . The essential principle, on which they are written, is the same through all changes. This is wrong and should be corrected."⁷⁸ The significance of this language lies in the fact that it was published in 1824, shortly before Roswell Smith, Colburn, and others attempted to put into grammatical textbooks the changes which Carter champions.

Reference has already been made to the fact that Neef, a representative of Pestalozzi, who was brought to America in 1806 and

⁷³ Barnard, Ed. Blog., 208.

⁷⁴ After Colburn's death Carter wrote to Mrs. Colburn: "No man ever drew out my heart as did Warren Colburn. No one has ever filled the aching void of his loss." Ibid., 217.

⁷⁵ Ibid., 182.

⁷⁶ Letters to Prescott, last three chapters. Carter also was instrumental in establishing the office to which Mann was elected in Massachusetts.

⁷⁷ In "Letters to Prescott" (pp. 72-4) Carter argues that facts are to be learned first; that rules are merely the verbal generalization of facts. "They are abstract principles, the truth of which can neither be perceived, understood, nor believed till some single instance . . . presents itself to the learner. . . . The rule . . . is obtained by a patient induction of particular instances and is put in words, not to teach us anything, but to classify what has already been learned. . . . The abstract principles of a language give no more adequate idea of the particulars from which they have been formed than the labels give of the nature and obligation of a note. . . . The facts of a language . . . are always first learned. . . . The rules in the learner's memory are perfectly useless till he has learned the particulars or facts of the language."

⁷⁸ Ibid., 66.

established a school in Philadelphia, was naturally outspoken in his opposition to the prevailing methods of teaching grammar. He asserted that "grammar and incongruity are identical things," and attempted to reach correct use of the vernacular by direct means associated with object teaching, rejecting practically all that had been taught under the name of grammar.⁷⁹

Three other men prominent in the educational revival, especially as its changes affected the teaching of grammar, are Asa Rand, Henry Barnard, and Horace Mann. Rand was the author of "The Teachers' Manual for Instructing in English Grammar."⁸⁰ Rand applies in this pedagogical manual the fundamental fact about grammar, stated so effectively by Carter above: "In forming a system of rules for a written and cultivated language, its principles were obtained by discovery, not by invention." It is significant that this passage is from a lecture on methods of teaching grammar and composition before the American Institute of Instruction in 1833.⁸¹ The lessons published by Rand are quite in keeping with the methods of inductive approach.

But to Henry Barnard and Horace Mann are to be ascribed the influences which most contributed to the reform that culminated in the transfer of emphasis from the word to the sentence as the unit of grammatical study, in the growing conception of grammar as a science of sentences, not as the art of writing and speaking. For five successive years (1838-1841) Barnard, then State superintendent of schools of Connecticut, sent a series of questions to every teacher of English grammar in the State. The queries involve all the essential features of inductive teaching, discussed in more detail in the following section. There is no way of estimating the influence of Barnard's constant emphasis on these new principles; the effects on school practices must have been great. Representative queries sent out by Barnard were as follows:

1. Do you make your pupils understand that the rules of grammar are only the recognized uses of language?
2. Do you give elementary instruction as to the parts of speech and rules of construction in connection with reading lessons?
3. Do you accustom your pupils to construct sentences of their own, using different parts of speech, on the blackboard?
4. Have you formed the habit of correct speaking, so as to train, by your own example, your pupils to be good practical grammarians?
5. At what age do your pupils commence this study?⁸²

As early as 1827 William C. Woodbridge wrote in his journal:

It is not a perfect knowledge of a treatise on grammar or a surprising fluency in parsing that will be sure to produce . . . correctness of expression. . . .

⁷⁹ Monroe, Pestalozzian Movement, 47.

⁸⁰ Published in Boston, 1832. A series of lessons in teaching grammar were the substance of this manual. The lessons are also printed in Am. J. and An. of Ed. and Ins., I, 162, etc.

⁸¹ Am. An. of Ed. and Ins. (1833), 160.

⁸² Barnard, Am. J. of Ed., I, 692.

The evil usually to be guarded against is that of trusting too much to the didactic exposition of grammar as given wholly in school books, and not using sufficient diligence to make the whole subject intelligible and familiar by *plain conversion* and *constant practical exercise*. What is needed in teaching grammar is full oral explanation, to prepare the learner; . . . next to this is frequent practice in writing (let the composition be ever so humble).⁸⁸

Barnard and Mann at the head of State school systems were in positions of advantage for pushing the reforms they advocated. But even before Mann's influence was felt as a State officer in Massachusetts we find here and there a progressive school committee which had caught the new spirit in regard to grammar. Samuel Shattuck, of the school committee of Concord, Mass., reported to the town meeting, November 6, 1830, that—

Grammar, taught according to the usual system, is productive of little practical good. A mere knowledge of parsing does not give a person the use of language. The inductive method, which commences with learning to express the most simple and proceeds to the more complex ideas, arriving at just rules for their construction at each step of its progress, seems to be the most natural in gaining a knowledge of language. The scholar should be required to make the application of every rule, *in writing*, not merely in the examples laid down in his textbook but in describing other objects.⁸⁹

This statement is highly suggestive of both the method of parsing prevalent in 1830 and the new processes which we shall consider in the following section.

After Mann had aroused the State we find very frequent statements from the school committees of the various counties indicating the pressure that was being brought to bear against the "big three" of grammatical instruction. Charlestown committee, in 1840, says:

Young men go from school with skill in parsing, or analyzing sentences, that would make the eyes of grammarians glisten with delight, and yet . . . prefer . . . the bastinado rather than compose a piece of reasoning. . . . Yet the object of learning grammar is to write and speak the English language with propriety; . . . to make the mind capable of forming independent opinions. . . . Can not something more be done for this than now is done?⁹⁰

With amusing errors in diction, the school officials of Dracot, in the same State and year, inveigh against formalism as follows:

Long lessons, correctly recited from memory, though they may sound well, and may be listened to with much interest, do not necessarily imply knowledge. They may show that a scholar has been industrious in getting his lessons. . . . Against this hollow, deceptive practice . . . your committee have taken a decided stand; . . . have given teachers strict charge . . . to go, not over them [lessons] but into them; not round them but through them. . . . In doing this, our object has been to learn . . . scholars to reason as well as to commit to memory.⁹¹

⁸⁸ Am. An. of Ed. (1827), 681-2.

⁸⁹ Am. J. and An. of Ed. and Ins. (1831), 138.

⁹⁰ Mass. Sch. Ret. (1840), 49.

⁹¹ Ibid., 55, 6.

3. CHIEF FEATURES OF THE INDUCTIVE MOVEMENT APPLIED TO GRAMMAR.

The chief features of the inductive movement as they were applied to grammar have been suggested in the preceding sections. They were three in number: First, the attempt to make learners understand thoroughly every step of their progress; second, the use of oral and visual instruction as a means of removing the tedium of book learning; and, third, the addition of the pupil's own activity in actually applying principles as he learned them, not only by means of additional exercises for parsing and correcting false syntax but also of exercises in sentence building and composition. All these were to be taught in close association with grammar.

REVOLT AGAINST MEANINGLESS INSTRUCTION.

The revolt against instruction meaningless to pupils was led by Horace Mann, whose guiding principle was the zealous advocacy of oral as against exclusive textbook instruction, of the word as against the traditional alphabet method, of the objective, illustrative, and explanatory method of teaching as against the abstract and subjective.⁸⁷ Mann's leadership is clearly seen in the thinking of school committees of Massachusetts, in the decade between 1840 and 1850. They frequently objected to teaching the signs of thought, rather than the thought itself.⁸⁸ In 1840 the committee of the town of Athol expressed the opinion: "Confessedly one of the most serious defects existing in the system of education . . . is the communication, to the mind of the youth, of the signs of thought more than the thought themselves."⁸⁹ This struck to the very heart of the error of teaching in both reading and grammar up to 1850. The word was the unit of approach, the idea signified of secondary importance. Favorable comment upon the results of normal training for teachers with special reference to making the pupils understand is not uncommon. For example, in the Lancaster report of 1840 we find:

The practice of calling the attention of classes to the meaning of what they study is of the greatest value, but it is comparatively new in our schools and by

⁸⁷ Anderson, *Hist. of Com. Sch. Ed.*, 227.

⁸⁸ A letter from a teacher who signs himself "Expertus sum," giving an imaginary conversation with a pupil in grammar, is indicative of numerous ideas found in educational journals of the period.

"'You say that you read in the English Reader; do you study grammar?'

"'Yes, sir; I have been through it several times, but I never parsed any yet.'

"'Whose system do you study?'

"'Oh, I study my own grammar; but it is almost worn out. I shall have to borrow then, for father says he can't afford to buy me any new books this summer.'

"'I meant who is the *author* of the grammar which you use?'

"'Author? I don't know what you mean.'" *Am. J. and An. of Ed. and Ins.*, I, 476.

⁸⁹ *Sch. Rep.* (1840), 87.

no means yet fully used. We believe that if words are good for anything it is for their meaning. . . . Let memory be joined with understanding."⁹⁰

In close association with the agitation against the teaching of meaningless terms was the growing demand that children must understand the meaning of the grammatical principles they were called upon to acquire. This is in the mind of the committee of Carver, Mass., in 1839, when they reported: "We can not say that there are many who get a thorough knowledge of grammar in our schools at the present day, but we think that there are many who derive a considerable understanding of it," whereupon they contrasted it with the grammar teaching of the committee's youth.⁹¹ Not so favorable were the opinions of the committee of Cummington County:

Your committee wish to notice that . . . the method of instruction is too formal and mechanical, and not sufficiently directed to the understanding. Teachers do not sufficiently illustrate the subject in which the scholar is engaged. The scholar commits to memory a certain number of words, without attaching them to a single idea, whereas ideas instead of words ought to be learned."⁹²

In a similar manner the school authorities of Amesbury demanded in teachers "the *ability* of communicating in an understanding and profitable manner what they are called upon to teach."⁹³ Those of Essex suggested "the propriety of being cautious when engaging teachers, to procure, if possible, . . . men who have some *tact* for awakening and bringing out the powers of youth."⁹⁴ More forcefully than elegantly the Athol committee expressed much the same sentiment.

A teacher is not like a jug, which holds back its contents from necessity, or like a cow which holds up her milk from inclination, the nearer full they are; he should rather be like a rain cloud, which sends down blessings in showers, and like a fountain ever flowing over."⁹⁵

⁹⁰ Ibid., 103.

The school committee of Weston, in 1841, inveighed against verbal instruction: ". . . the understanding of the scholar is not . . . properly exercised. A correct verbal recitation seems the principal, if not the only, object to be attained; . . . while the scholar garners up a multitude of words, his mind adds nothing to his stock of ideas. Let the young be taught to think." Ibid., 1841, 69.

The Westerfield committee, in the same year, voiced the oft-repeated complaint: "The efforts of too many of our teachers have been confined to impart to the scholars' *memory* a series of words, rather than to open their *understanding* to the reception of *ideas*." Ibid., 128.

⁹¹ Ibid. (1839), 413.

⁹² Ibid., 4.

⁹³ Ibid., 1840, 143.

The Springfield committee felt the same need: "Let the rules of grammar . . . be not only committed to memory, but let their principles be understood, . . . let the subjects be so incorporated into . . . the thought . . . that their contents may be reproduced and transmitted." Ibid., 172. That of Ashby also reported: "Another point noticed was the want of familiar explanation; . . . some teachers seemed to be content with receiving the answers given in the book. . . . Such parrot-like recitations can be anything but interesting to the teacher or pupil. Let the teacher, by familiar inquiries and explanations, know that the subject . . . is fully understood." Ibid., 1841, 40.

⁹⁴ Ibid., 8.

⁹⁵ Ibid., 75.

A glimpse into one of the progressive schoolrooms of 1829 shows us grammar being taught far in advance of its time. William A. Alcott, afterwards associated with Woodbridge in the editorship of the *American Journal of Education* and the author of many articles on methods of teaching, as a young man taught a district school of Southington, Conn. Here he made marked advances especially in the teaching of etymology. The account of his method of teaching pupils the meaning of a verb reminds one of the actions often seen to-day in the classrooms of modern-language teachers who pursue what is known as "the direct method." Without any preliminary information in regard to what he was going to do, Alcott would ask the pupils to take their slates and pencils. Then stamping the floor or clapping his hands he would require them to write down what they saw him do. This process he would have repeated with the actions of the pupils as well as his own. "Now," he would say, "what have you been doing?" He would point out that the words they had written described actions. "These words describing actions are verbs. Now, what is a verb?" In this manner the children were said to acquire as much knowledge in 10 lessons as in an entire term under the older methods.⁹⁶

The second feature of the educational revival which affected instruction in grammar was the attention given to visual and oral instruction. In 1839 the school committee of Roxbury, Mass., struck a note not frequently heard, namely, that the force of the teacher's example in speaking and writing is the most important agency of instruction. Their statement was that—

teachers should take care not to undo all their efforts to teach grammar by the bad example of using false grammar themselves. They should watch over their own . . . modes of address, as well as those of the children, for example's sake. . . . It is necessary that teachers be . . . exemplary in conversation. . . .⁹⁷

ATTENTION TO VISUAL AND ORAL INSTRUCTION.

The teacher's example is not a direct phase of what is known as oral instruction. The term means rather that children are taught principles by word of mouth; that is, the explanatory talks which Kirkham had included in his text are to be presented in simple explanations by the teachers themselves. This practice was so unfamiliar in some towns that it attracted the notice of visiting committees, as that of Newbury, Mass., which wrote, in 1839: "Another improvement we noticed was the method of some teachers of communicating knowledge . . . by familiar conversation and by questions on common subjects."⁹⁸ The Egermont committee of 1843 found occasion to praise—

⁹⁶ Barnard, *Ed. Blog.*, 261; also *Am. J. of Ed.* IV, 641.

⁹⁷ *Sch. Ret.* (1839), 365.

⁹⁸ *Ibid.*, 1839, 33.

the example in the winter school of district No. 2, of much *oral* instruction instead of the common practice of very rigid confinement to the lesson book; . . . a good teacher can *talk* into a child, in the space of three or four months, an amount . . . of practical knowledge . . . which the child could not *read* into himself in the space of as many years."²

Horace Mann, reviewing Edward's "First Lessons in Grammar," 1843, asserts:

If a child is made to feel that the subject [grammar] is hard to understand and that he is expected to grope his way in darkness . . . he will be very likely to construct a prejudice against it. . . . Many a teacher has felt that there must be a better way of teaching grammar. . . . Edward's "First Lessons" is not the old process of committing to memory and repeating. . . . A method is given by which a teacher explains whatever is difficult to the learner. . . . The book is the substance of lessons in grammar given orally by the author in school.³

This same note is struck by an editorial by William B. Fowle in 1850:

Grammar can be taught by oral instruction, by correcting the ungrammatical language of the pupils, and by the example of the teacher much more easily and more effectively than by committing to memory and reciting. . . . An accomplished teacher may do more for a class of 20 in one hour, by exercises on the blackboard, than he can do in a whole day for an individual who studies and parses from a textbook.⁴

The first 24 pages of William H. Wells's "School Grammar," 1846, are devoted to a section on oral instruction in English grammar, prepared at the request of Barnard, at the time commissioner of public schools in Rhode Island, and already published as one of his series of educational tracts.⁵ This section is not a part of the grammar itself but is frankly given over to explicit directions to teachers as to how to use the inductive methods and how to use illustrative exercises in composition.⁶ One hundred and fifty thousand of these textbooks were sold in the first five years. We have seen that his books

² Ibid. (1843), 188.

³ Com. Sch. J., 1843, 167-8.

"After the part of speech . . . had been defined by the teacher and clearly comprehended by the pupils, they went to their seat to write examples in a book kept for that purpose. It was sometimes found that listening to an explanation . . . and conversing . . . were not sufficient . . . on which account a textbook was required. This constructive exercise is extremely interesting; children are pleased with *doing* something." Ibid.

⁴ Com. Sch. J. (1850), 146.

⁵ Wells, Sch. Gram., preface, IV.

⁶ A sample of Wells's advice concerning instruction in the parts of speech may be quoted: "The *classification* of words may be introduced by referring to the different kinds of trees: to the different kinds of animals; or to any other collection of objects that admit of a regular division into distinct classes. Thus when we go into a forest, we find that the number of trees about us is greater than we can estimate. But we soon observe that a certain portion of them have certain resemblances, while they differ essentially from all the rest; . . . by extending our observation, we find . . . all trees . . . belong to a few very simple classes, . . . Oak trees, . . . Pine trees. . . . Just so it is with the words of our language. . . . By some introductory illustration the curiosity of a class of beginners may be excited. . . . The teacher should lead his pupils to take an active part in these lessons from the beginning." Ibid., II, 12.

were scattered through various States. Wells himself later became superintendent of schools in Chicago. It is probable that his influence more than that of any other man really introduced oral instruction and explanation into classroom instruction in English grammar.

Visual instruction was also brought into the field of teaching grammar after 1825. As late as 1835 the idea of using slates and blackboards was exceedingly novel; in only a few schools does it appear to have been attempted before that time. William A. Alcott, whom we have seen above dispensing with grammar books as far as possible, testifies that in 1830 "the idea of studying grammar with slates and pencils was so novel that I found no difficulty in gaining general attention." Children wrote names of different objects held before them; they read the lists aloud, classified them, and wrote new lists of objects of which they could think. Thus was employed a combination method of visual instruction and pupils' activity.⁵ Rules and regulations for the schools of Salem, Mass., require that "every lesson (in grammar) shall be accompanied by operations on the blackboard and slates (from the younger pupils), and exercises in parsing shall be required from the older classes."⁶ In an article on normal schools, in 1843, the advice is given that—

the first principles should be taught orally and by the blackboard and slate. So taught, they are easy and pleasant, and throw valuable light upon the arts of reading and composition. The use of the blackboard is very important. Write on the board, "It is she," not "It is her!" Require the pupils to make for themselves, and write on their slates, ten examples of similar mistakes, and their corrections. The rule is learnt better than by months of repeating the rule in parsing, where the mind is little better than passive.⁷

Again, James Ray, a prominent teacher of this decade, in 1830 advises:

In the study of Grammar the blackboard may be used to exhibit the inflections of the various parts of speech; it may also be used in syntax, to point out the connection of the principal words to each other. The method of doing this is by writing on the board the sentence to be parsed, and then connecting by curved lines those words that have any grammatical connection with each other. The instructor at the same time pointing out what that relation is. It may be observed that in teaching grammar the use of the blackboard is confined to the teaching the elementary principles of the science, [and] is used by the teacher for the purpose of illustrating these principles.⁸

The foregoing is the earliest reference the writer has seen pointing to the use of diagrams, which, after the middle of the century, came into great prominence in the analysis of sentences.

Massachusetts school committees often spoke in commendation of the new movement for blackboards facilitating instruction in gram-

⁵ Am. An. of Ed. and Ins. (1837), 165.

⁶ Com. Sch. J. (1842), 78.

⁷ Ibid. (1843), 331.

⁸ Ray, Transactions of College Teachers, VI, 104.

mar. For instance, the Dighton committee said, in 1843: "The blackboard has been introduced into several schools. . . . By means of this the study of Orthography and English Grammar has been facilitated."⁹

Samuel J. May gives a hint concerning the very earliest appearances of blackboards, when, describing a visit to the school of Rev. Father Francis Brosius in Boston, in 1814, he said: "On entering his room we were struck at the appearance of a *Blackboard* suspended on the wall. . . . I had never seen such a thing before . . . and there I first witnessed the process of analytical and inductive teaching."¹⁰ It is quite certain, however, that not for two decades after 1814 did the rank and file of Massachusetts schools adopt this device now regarded as so indispensable for visual instruction. William C. Woodbridge, in the report of a Boston school committee on improvements, in 1833, strongly recommended slates and cards in the primary schools. He added that means for visual instruction were positively forbidden in Boston by the general committee.¹¹ In the common schools of Connecticut as late as 1832 "slates, blackboards, and apparatus are almost entirely unknown in the district schools," a committee on common schools testified.¹² Massachusetts counties in general waited for the boards until after 1840.¹³

INTRODUCTION OF CONSTRUCTIVE WORK.

The third prominent feature of innovating methods before 1850 was the introduction of constructive work on the part of the pupils, which gradually took the form of composition. Of course dictation and copying exercises were very old,¹⁴ and disputations dated far before the beginnings of instruction in the vernacular. Moreover, writing of a sort had accompanied work in grammar in the days of Murray's dominance in American schools. But composition as an adjunct to the study of grammar did not become prominent until Barnard, Fowle, Mann, Carter, Rand, and others championed and advanced it. Fowle, in an editorial of 1852, says that—

even now, a large number of our schools have no composition taught in them. No wonder, for not one teacher in 10 can write with tolerable ease and correctness. In an institute in Massachusetts (1850) we required 117 teachers to write what they could in fifteen minutes on "happiness." At the end of fifteen minutes, but seven teachers had done anything, and four of these had requested to be excused from writing. The three more periods of fifteen minutes were given, and only twenty teachers had been able to write anything in the end.

⁹ An. Rept. Supt. Ed. (1843), 234.

¹⁰ Barnard, Ed. Blog., 38.

¹¹ Am. An. of Ed. and Ins. (1833), 587.

¹² Ibid. (1832), 248.

¹³ Ashbunham comments, in 1841: "Schoolrooms have been more generally furnished with blackboards." Rept. Supt. Ed. (1841), 71. See also *ibid.*, 78; 1843, 234; 1841, 27.

¹⁴ See Chap. V, p. 127.

Fowle then pertinently asks: "How can such teachers give instruction in English Grammar?"¹⁵

The Massachusetts school reports are especially clear in indicating that composition as such was a product of the decade 1830 and 1840. In 1840 Sterling reported that "the exercise of composition has been introduced into some schools with encouraging success. This important branch has been too much neglected in former years. . . . English Composition should come next in order . . . to grammar."¹⁶

The committee of Carver, in 1839, explained that 20 years earlier the art of composing and writing received no attention:

It is true we were set to making marks, and dashing and pointing them with our pens (writing) . . . but . . . there are but few now, who were scholars then, that can compose, write and fold a letter, in a handsome form, as large numbers of our children from ten to fifteen years of age can.¹⁷

The Rockport committee "urged upon the more advanced scholars, who are acquainted with grammar, the importance of writing composition. . . . This should be a standing exercise in our schools. . . . This exercise is too much regarded as a matter of form."¹⁸ Here it is to be noted that composition first came into the curriculum only after the pupil had some acquaintance with grammar. Later periods reversed the order, composition preceding grammar. This constitutes a very important consideration. The committee of Dana, in 1843, commended oral composition in the following language:

The practice was particularly recommended by the committee, of urging the classes, instead of giving arbitrary rules from the book, to explain their operation, and to give their reasons in their own language. . . . Exercises in composition have been attended to in some of the schools.¹⁹

Only one Massachusetts committee, in 1843, found a satisfactory condition:

In the juvenile department in this school there was a new thing exhibited at the examination, about fifteen letters, and pieces of original composition, written by little children under ten years of age, and written with a simplicity, correctness and beauty, which surprised as much as it delighted us.²⁰

The list of questions which Barnard sent to the Connecticut teachers (1838-1841, inclusive) are indicative of the most advanced thought of the day.²¹

1. Do you classify your pupils in reference to teaching composition?
2. Do you accustom your youngest pupils to write or print words and short sentences on the slate, from your dictation?
3. Do you ask them to print or write something about what they have seen in coming to school, or read in the reading lesson?
4. As a preliminary exercise in composition, do you engage them in familiar talk about something they have seen in their walk, or has happened in or about

¹⁵ Com. Sch. J. (1852), 375.

¹⁶ Mass. Sch. Ret. (1840), 123.

¹⁷ Ibid. (1839), 413.

¹⁸ Ibid. (1841), 27.

¹⁹ Ibid. (1843), 83.

²⁰ Ibid. (1843), 215.

²¹ Am. J. of Ed., I, 692.

the school? and when they have got ideas, and can clothe them orally in words, do you allow them as a privilege to write or print the same on the slate or paper?

5. Do you give out a number of words, and then ask your pupils to frame sentences in which those words are used?

6. Do you require your older pupils to keep a journal or give an account of the occurrences of the day, as an exercise in composition?

7. Do you instruct your pupils as to the most approved form of dating, commencing, and closing a letter?

8. Do you require your pupils to write a letter in answer to some supposed inquiries about some matter of fact?

9. Do you request your older pupils to write out what they can recollect of a sermon or lecture they have heard, or of a book they have been reading?

10. At what age do your pupils usually commence writing easy sentences or compositions?

The exceeding reluctance with which authors of treatises on grammar and teachers of this subject came to the realization that constructive written work on the part of pupils ought to accompany every stage of their progress is clearly marked in America before 1850. Priestley as early as 1772 recommends the practice in his preface,²² but neither his nor contemporary textbooks are constructed with this purpose in mind. Even earlier than Priestley we have seen the Philadelphia Academy and other schools of advanced ideas employing composition, but not primarily as an adjunct to grammar.²³ But the fact is that the practice was not prevalent in American schools. This is evident not only from the complete absence of suggestions for composition in the earlier grammars but also from frequent testimony.²⁴

²² "We must introduce into the schools English grammar, English composition, and frequent English translations from authors in other languages. The common objection to English Compositions, that it is like requiring brick to be made without straw (boys not being supposed to be capable of so much reflection, as is necessary to treat any subject with propriety) is a very frivolous one since it is very easy to contrive a variety of exercises introductory to themes upon moral and scientific subjects, in many of which the whole attention may be employed upon language only; and from thence youth may be led on in a regular series of compositions, in which the transition from *language* to *sentiment* may be as gradual and easy as possible." Priestley, 3d ed., preface, XXI.

²³ See Chap. III, p. 46.

²⁴ "We were two or three years in grammar; . . . we were never required to write a sentence of English, and we never did write one as a school exercise." Wallis, speaking of Boston schools about 1800. *Com. Sch. J.* (1850), 5.

"We were educated at one of the best schools . . . but, although we studied English grammar seven years and received a silver medal for our proficiency, we never wrote a sentence of English at school and never did anything which implied a suspicion on our part that grammar had anything to do with writing or conversation." *Ibid.*, editorial (1849), 258.

"Composition was unknown to us. We were supposed to acquire 'the art of writing the English Language with propriety' by a textbook study of Orthography, Etymology, Syntax and Prosody, without writing even a sentence." Swett, speaking of the period, 1830-1840, *Am. Pub. Sch.*, 122.

"We think it would be but a counterpart to our grammars for children if some philosopher were to publish a treatise as a mode for discovering the center of gravity, and the laws of motion, in order to teach the children how to walk and run." Review of Everst's *English Grammar*, 1835, *Am. An. of Ed. and Ins.* (1835), 429.

It is significant, then, to find grammars after 1820 deliberately planning exercises in composition. They do not attempt "themes upon moral and scientific subjects," as Priestley advised; indeed, their suggestions for written work may not properly be called composition at all. Roswell Smith's title, "Sentences to be written," is far more exact. Kirkham had nothing to contribute to this advance, contenting himself with elaborate parsing and false syntax. Goold Brown follows Murray in placing exercises after each of the four divisions of his grammar, urging that the pupils "should *write out*"²⁵ their answers. Smith is entitled to the credit of making the first distinctive step toward the practice of sentence building. Scattered through his text are numerous headings entitled "Sentences to be written." The purpose is to employ the constructive activities of pupils as a means of fixing the grammatical principles they have just been studying.²⁶ Remembering the dates of Smith's books—1829 and 1831—we see that he stands in point of time at the head of the movement for composition in Massachusetts discussed above.²⁷

Wells, in 1846, urged that teachers write models on the board, and that they also write lists of words and have the pupils compose sentences embracing them. He goes a step in advance, advising: "After the pupils have in this manner exemplified the various modifications of the parts of speech, they should be required to write several compositions of considerable length."²⁸ Naturally we find Greene, in his "Analysis of Sentences," taking even more advanced ground. In his preface he affirms that "the only successful method of obtaining a knowledge of that art (writing and speaking correctly) is by means of construction and analysis."²⁹ In the text proper construction exercises begin on page 13, a footnote saying: "These exercises may be written or recited orally. It is recommended that the practice of writ-

²⁵ English Grammar, 100.

²⁶ Sentences to be written:

"'Q. Will you compose two sentences, each having a different adjective pronoun? One, having a demonstrative pronoun? One, having an indefinite pronoun used as a noun?'" Eng. Gram. Prod. Sys., 58.

²⁷ Richard G. Parker's book, "Progressive Exercises in English Composition," Boston, 1832, enjoyed a remarkable sale. It reached its forty-fifth edition in 1845. New editions were published in 1855 and 1856. Parker published a "Sequel" in 1835 and, in 1844, "Aids to English Composition," which reached its twentieth edition in 1850. The sale of these series is indicative of the trend toward composition. Parker, collaborating with C. Fox, in 1834, published also "Progressive Exercises in English Grammar," Part II, 1835, Part III, 1840. A favorable review of the first book describes it as being "without a formidable array of long definitions and unintelligible rules." Am. An. of Ed. and Ins. (1835), 47.

²⁸ Sch. Gram., 24.

²⁹ Analysis, 4. Contrast this with Goold Brown's statement: "The only successful method of teaching grammar is to cause the principal definitions and rules to be committed thoroughly to memory, that they may ever afterwards be readily applied." Brown, preface, VI. The contrasted statements indicate the two radically different conceptions of grammatical instruction, one of which was passing, the other of which was entering, in 1850.

ing lessons should be adopted as a general rule.”³⁰ Moreover, Greene desires that “the exercises, after being corrected, should be copied into a writing book.”³¹

As may be expected, it is impossible to assign a date at which constructive work, closely associated with grammatical study, entered school practice. However, it appears safe to say that it was the outcome of the influences we have seen at work in the period between 1825 and 1850.³² The discussion may be fittingly closed by citing the practice of two schools, which for their generation were exceedingly progressive. A teacher of 1830, describing methods which he has found profitable, recommends voluntary composition, the pupils to continue their work on their own account by keeping journals. The variety of exercises suggested includes writing abstracts from memory; taking notes on lectures; abridgments; dialogues, real and imaginary; stories for children; narratives of personal adventure; discussion of questions; and the like. The voluntary reading of articles at stated periods is also recommended.³³ Of course this procedure is exceedingly advanced; it is practically composition as we understand the term to-day. A more representative program of the period in question is found in the following account of a female school of Boston in 1832:

Care has been taken to improve all *occasional* opportunities of directing the attention of the pupils to the etymology, the signification, and the appropriate use of words, as they occur in connection, and while the interest felt in their meaning is still fresh in the mind. Exercises in the defining of words and in the distinguishing synonyms are occasionally prescribed. The practice of substituting equivalent words, phrases, sentences, and thoughts is likewise employed. The analysis of figurative language to the same end. A practical course in grammar is comprehended in the daily exercises in composition and a systematic view of the principles of the science has been taken.³⁴

GENERAL SUMMARY.

Methods of teaching grammar have now been traced for about 100 years from its beginnings in America about 1750 to the middle of the nineteenth century. For the first 75 years instruction centered almost

³⁰ Analysis, 13.

³¹ Ibid., 18, 1.

³² John Flint, who published “First Lessons in English Grammar upon a Plan Inductive and Intellectual,” in 1833, deserves credit for pioneer work in sentence building, antedating Greene 12 years. An editorial in the American Annals says: “Decidedly the best introductory work we have seen. The pupil’s knowledge is given by examples and sentences in which he finds words corresponding to definitions, and the pupil writes sentences as soon as may be.” Am. An. of Ed. and Ins. (1833), 334. Dyer H. Sanborn’s “Analytical Grammar,” 1836, receives similar commendation. Ibid. (1837), 143. F. W. Felch’s “A Comprehensive Grammar,” 1837, affirms on the title page: “Designed to make the study of grammar and composition one and the same process.” Ibid. (1837), 525. Of Wells and Greene a committee on Boston free schools declared, in 1851, that they were adopted “all over the land” as a protest against teaching Murray’s Latin grammar for English.” Com. Sch. J. (1851), 36.

³³ Erodoire, Am. An. of Ed. and Ins., I, 266–9.

³⁴ Am. An. of Ed. and Ins. (1832), 215.

entirely around memorizing, correcting false syntax, and parsing. Of these all three were transferred directly from practices customary in studying Latin grammar. About the year 1823 changes began to creep into class instruction. Although the three traditional methods still predominated, especially parsing and memorizing, influences were at work which made the need of remedies felt in the educational revival of the second quarter of the century. Most conspicuous among the innovations were, first, earnest efforts to make the pupils understand; second, visual and oral instruction; and, third, the beginnings of constructive work. Most conspicuous among grammarians were Kirkham and Smith, Wells and Greene; among educational leaders, Carter, Rand, Barnard, and Mann. The results of their labors were indeed a veritable revolution, both in the conception of grammar and in the methods of instruction, a revolution the nature of which is well illustrated by comparing Gould Brown's statement of 1823 with the corresponding statement of Greene in 1847:

The only successful method of teaching grammar is to cause the principal definitions and rules to be committed thoroughly to memory. . (Brown.)

The only successful method of obtaining a knowledge of the art is by means of construction and analysis.²⁸ (Greene.)

²⁸ Consideration of methods after 1850 is reserved for another study. Between 1850 and 1920 we may distinguish three fairly marked periods: That of 1847-1873, which may be termed the inductive period, characterized by the methods whose origin has just been presented; that of 1873-1891, which may be termed the rhetorical period, marked by Swinton's "Language Lessons," White's grammars (1871), the Harvard entrance requirements of 1873, and the Connecticut order dropping grammar in 1891; and that of 1891-1920, which may be termed the elimination period or the incidental study period, the chief tendency of which is the gradual subordination of formal grammar to its proper place as incidental to the study of composition and literature.

APPENDIX A.

CHRONOLOGICAL CATALOGUE OF ENGLISH GRAMMARS IN AMERICA BEFORE 1800.

Henry Barnard, speaking of his list of early American textbooks,³⁶ indicates the viewpoint in which the present list is compiled. He says: "This information in many cases is very imperfect and unsatisfactory, but it will at least serve as the clue to further inquiry; . . . many errors . . . and omissions will doubtless be detected in regard to those books which the compiler has not seen, and whose titles, dates, and places of publication and authorship have been gleaned from numerous sources not always reliable."

GRAMMARS USED IN AMERICA BEFORE 1850.

1706. Greenwood, James. *Essay Toward a Practical English Grammar*, 2d ed., London, 1711, 12°, 315 pp.

1724. Jones, Hugh. *A Short English Grammar: An Accidence to the English Tongue*. London.

See Chapter II for further description of the first 10 grammars in this list.

1740. Dilworth, Thomas. *A New Guide to the English Tongue. Containing a Brief but Comprehensive English Grammar*. London.

1751. Harris, James. *Hermes, or a Philosophical Inquiry Concerning Universal Grammar*. 6th ed., 1806, 468 pp., 8°.

Harris's work was not a textbook, but was influential in shaping most of the grammars earliest in America. Murray acknowledges his indebtedness. (Introduction, 5.) Harris was an innovator and simplifier among grammarians, using only four classes of words, after Aristotle. Book reprinted in Philadelphia. Wickersham, *Hist. of Ed. in Pa.*, 202. Reached 7th ed., 1825. *Com. Sch J.*, III, 209.

175— . Wiseman, ———. *English Grammar*.

Advertised, *Boston Evening Post*, Oct. 27, 1760.

1753. Fisher, A. *A Practical New Grammar*. 28th ed., London, 1795, 176 pp., 12°.

Follows Harris with four kinds of speech; no cases, no moods, only three tenses. Brown used "A New Edition, Enlarged, Improved and Corrected, 1800."

1758. Lowth, Robert. *A Short Introduction to English Grammar*. 1st Amer. ed., London, 1775, 132 pp. 12°.

³⁶ Barnard's list, *Am. J. of Ed.*, XII, XIII, XIV; also William H. Wells's list in the preface of his "A Grammar of the English Language." Boston, 1852, edition. A writer who signs himself W. H. W. (probably William H. Wells) began a series of articles on English grammars in *The Common School Journal*. Illness compelling him to cease his labors, another writer who signs his articles "Wallis" (probably W. M. Fowle), continued the series under the title "Grammars Published in America before 1804." *C. S. J.*, IX, X, XI, XII. A fourth list, "American Textbooks," anonymous, is found in Barnard's *American Journal of Education*, 14, 600. For all books published in America before 1792 Evans's "American Bibliography" is the standard source. Evans is not infallible, however; a few books before 1792 have apparently not come to his attention. Gould Brown, in his "Grammar of Grammars," 1851, presents a list of some 350 authors or compilers of grammatical textbooks.

The present writer has added several items of information, mostly fragmentary, from announcements of publishers, from book reviews in the early educational journals, and from stray references in town histories, reports of school societies, addresses in educational conventions, and pedagogical tracts.

1760. [Anonymons.] The British Grammar. 1st American ed., 1784, 251 pp., 8°.
1760. Gough, James. English Grammar. 212 pp., 18°.
Advertised, Providence Gazette, Oct. 24, 1767. 1760 is date of 2d ed. "A publication of little merit, much of it borrowed from earlier writers." W. H. Wells, Com. Sch. J., III, 210.
1762. Priestley, Joseph. The Rudiments of English Grammar. 3d ed., London, 202 pp., 18°.
Reprinted in Philadelphia. Wickersham, op. cit., 202. Simplifier, like Harris and Fisher. "A production of little merit." Wells, op. cit., 229.
1763. Ash, John. Grammatical Institutes, or an Easy Introduction to Dr. Lowth's English Grammar. London, 163 pp. 24°.
First American reprint, 1774, by Hugh Gaine, New York. Evans, 5, 5.
1765. Johnson, Samuel. An English Grammar; the First Easy Rudiments of Grammar Applied to the English Tongue By One Who is Extremely Desirous to Promote Good Literature in America, and Especially a Right English Education for the Use of Schools. New York, 36 pp., 12°.
This appears to have been the first English grammar prepared by an American and published in America. Evans, Am. Bibl., 4, 18, 10025. See Chap. II, p. 85.
1766. Burn, John. A Practical Grammar of the English Language. Glasgow, 18°.
1767. Buchanan, James. A Regular English Syntax. 194 pp., 12°.
First American reprint, 1780. Evans, 6, 68. "A most egregious plagiarism, borrowed from the British Grammar, half the volume copied verbatim." Wells, op. cit., 3, 237.
1772. Adam, Alexander. Latin and English Grammar. Edinburgh.
"An English Grammar that was connected with Adams's Latin Grammar . . . far more English than Murray's." Wallis, Com. Sch. J., XII, 118.
1773. Byerley, Thomas. A Plain and Easy Introduction to English Grammar. New York.
- 177— Hall, James. English Grammar.
Hall founded a school (1778) in Bethany, N. C. He conducted classes in English grammar; wrote and published a book that had wide circulation. Raper, The Church and Private Schools of North Carolina, 55, citing Foote's Sketches, 336.
1779. Curtis, Abel. A Compend of English Grammar, Being an Attempt to Point Out the Fundamental Principles of the English Language. Dresden (Dartmouth College), 49 pp., 16°.
- Benezet, Anthony. An Essay Toward the Most Easy Introduction to the Knowledge of the English Grammar. 6 pp., 12°.
Compiled for the Pennsylvania Spelling Book. Evans lists the grammar also as a separate book. Evans, 6, 4.
1784. Webster, Noah, jr. A Grammatical Institute of the English Language. In three parts. Part 2, Containing a Plain and Comprehensive Grammar Grounded on the True Principles and Idioms of the Language. Hartford. 139 pp., 16°.
- Kenrick, William. A Rhetorical Grammar of the English Language. Philadelphia.
1785. Bingham, Caleb. The Young Ladies Accidence; or a Short and Easy Introduction to English Grammar; Designed Principally for the Use of Young Learners, More Especially Those of the Fair Sex, though Suitable to Both. Boston, 45 pp., 16°.
1786. Mennye, J. An English Grammar. New York.
1787. Ussher, George M. The Elements of English Grammar. London.
American edition, 1790, Portsmouth, N. H. Evans, 8, 98. Printed for J. Metcher, especially for young ladies. 3d Am. ed. in 1804, Exeter, N. H.

- 1787. Harrison, Ralph.** Rudiments of English Grammar. Philadelphia, 102 pp., 18°.
Mentioned by Wickersham as one of the first used in Pennsylvania. Hist. of Ed. in Pa., 202. An English book, 9th ed., Philadelphia, 1812.
- 178—.** [Anonymous.] A Comprehensive Grammar. Philadelphia, 173 pp., 18°.
1789 is date of 3d ed. Evans, 7, 305.
- 1790. Webster, Noah.** The Rudiments of English Grammar. Hartford, 80 pp., 16°.
The Rudiments was first printed as part 2 of the Little Readers' Assistant; then, at the request of the Hartford school authorities, was twice printed as a separate book, in 1790. Evans, 8, 105.
- 1791. Hutchins, Joseph.** An Abstract of the First Principles of English Grammar. Hartford, 24°.
Mentioned by George A. Plimpton. Murray, Hist. of Ed. in N. J., 51. "Compiled for the use of his own school." Title page, Evans, 8, 164.
- 1792. Alexander, Caleb.** A Grammatical System of the English Language. Boston, 96 pp., 12°.
"Comprehending a Plain and Familiar Scheme of Teaching Young Gentlemen and Ladies the Art of Speaking and Writing correctly their Native Tongue." Evans, 8, 242. 10th ed., Keene, N. H., 1814.
- [Anonymous.] The Young Gentlemen and Ladies' Accidence, or a Compendious Grammar of the English Tongue, Plain and Easy. Boston.
Attributed to Noah Webster.
- Humphries, Daniel. The Compendious American Grammar, or Grammatical Institutes in Verse. Portsmouth, N. H., 71 pp., 12°.
- Tichnor, Elisha. English Exercises. 2 pp., 18°.
1792 is 3d ed. "All the rules of Parsing . . . facilitates grammatical knowledge." Evans, 8, 363.
- 1794. Knowles, John.** Principles of English Grammar. 3d ed.
- 1795. Carroll, James.** American Criterion of English Grammar. New London, Conn.
- Dearborn, Benjamin. The Columbian Grammar. Boston, 12°.
George A. Plimpton assigns date, 1792. Murray, Hist. of Ed. in N. J., 51. Used the question-and-answer method.
- Miller, Alexander. Concise Grammar of the English Tongue. 119 pp., 12°.
- Murray, Lindley. English Grammar, Adapted to the Different Classes of Learners. London.
- 1796. An English Grammar.**
Barnard lists, by printer; information very fragmentary.
- 179—.** Bullard, Asa. An Abridgment of Murray's English Grammar, by a Teacher of Youth. Boston.
10th ed. in 1817. Succeeded Bingham's Young Ladies' Accidence in Boston schools.
- 1897. Burr, Jonathan.** A Compendium of English Grammar. Boston, 72 pp., 18°.
- 1797. Macintosh, Duncan.** An Essay on English Grammar. Boston, 239 pp., 8°.
- 179—.** Marshall. English Grammar.
Written by an American author, contemporary of Webster; date uncertain. Mentioned in Education in New Hampshire, Am. Ann. of Ed. and Ins., 1833, 435.
- 1799. Stanford, Daniel.** A Short but Comprehensive English Grammar. 18°.
2d ed. in 1800, 4th in 1807. "Fell into the traces of Murray." Wallis, Com. Sch. J., 12, 203. Brown says 1st ed. 1807, 96 pp., 12°.
- 1800. Woodbridge, William.** Plain and Concise Grammar.
George A. Plimpton, Hist. of Ed. in N. J., 51.
- 1801. Gurney, David.** English Grammar. Boston, 18°.
2d ed., 1808, Brown. Barnard calls it "Columbian Accidence."
- 1802. Cochran, Peter.** An English Grammar. Boston, 71 pp., 18°.

APPENDIX B.

A COMPARISON OF THE ENGLISH PROGRAMS OF TURNBULL AND FRANKLIN.

TURNBULL.

(From Observations on Liberal Education (1742), 1762, ed., 4-9.)

FRANKLIN.

(Smyth, Writings of Benj. Franklin. II, 391 et seq.)

GRAMMAR.

"One exercise should be daily to write a page of English, and after that to examine every word by the grammar rules, and every sentence they have composed, to oblige them to give an account of the English syntax and construction."

"The English Language might be taught by Grammar."

COMPOSITION.

". . . who thinks it worth while learning to write this (mother tongue)? Every one is suffered to form his own stile by chance; to imitate the first wretched model which falls in his way, before he knows what is faulty, or can relish the beauties of a just simplicity. . . . Right education would have . . . taught them to acquire habits of writing their own language easily under right direction; and this would have been useful to them as long as they lived."

"The Stiles principally to be cultivated being the clear and the concise. . . . To form their Stile, they should be put on Writing Letters to each other, making Abstracts of what they read; or writing the same Things in their own Words; telling or writing Stories lately read, in their own Expressions. All to be revis'd and corrected by the Tutor."

LITERATURE.

"I need not advise you to give them a taste of our best poets."

"Some of our best Writers, as Tilletson, Addison, Pope, Algernon Sidney, Cato's letters, etc., should be classics."

SPEAKING.

". . . obliging them to speak every day their unwritten thought on any subject in English. Let them read an Oration on Tully or Livy . . . then shut the book, and speak the sense of it extempore."

"Repeating Speeches, delivering Orations."

DECLAMATION.

"Make them read aloud gracefully, an accomplishment that many men . . . cannot perform, because they are either unexperienced or bashful."

"To form their Pronunciation they may be put on Declamations. . . .

Reading should also be taught and pronouncing, properly, distincting, emphatically."

FOR PROFESSIONS.

"Where is *English* taught at present? Who thinks of it of use to study correctly the language which he is to use in daily life? . . . It is in this that nobility and gentry defend their country; . . . It is in this that lawyers plead, the divines instruct, and all ranks of people write their letters and transact all their affairs."

"It is therefore propos'd that they learn those Things that are likely to be *most useful*. . . . Regard being had to the several Professions for which they are intended."

Between the passages in Turnbull and in the proposals of Franklin there is one striking dissimilarity. The former is outspoken in his condemnation of Latin as a medium of universal education. Franklin, who in other places voices the same sentiment, in his proposals contents himself merely with strong emphasis upon English as the "most useful" and "most natural." Smyth, op. cit., 386-96. The explanation is simple: Turnbull was writing a book frankly to substitute the vernacular and the realities for classical instruction, while Franklin was propounding the program for a school he wished to establish. The former could afford to denounce the opposition, the latter could not. As always the practical man is cautious, conciliatory, compromising. The student of Franklin's early advocacy of the mother tongue is frequently struck by the extreme diplomacy with which he sought to bring it forward.

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The
Housing and Equipment
of Kindergartens

Kindergartens LB 1140



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LETTER OF TRANSMITTAL.

DEPARTMENT OF THE INTERIOR,
BUREAU OF EDUCATION,
Washington, D. C., September 17, 1920.

SIR: In the last 8 or 10 years there has been unusual progress in the establishment of kindergartens in most of our cities and States, but still the kindergarten is a phase of school work less known than the work of the grades in the elementary schools. Many school officers and school architects lack information as to the character of rooms and buildings best suited for the use of the kindergarten, and many of the kindergartners have need for more complete information in regard to modern kindergarten equipment. To supply these needs I have had prepared a manuscript on the Housing and Equipment of Kindergartens, in which descriptions and illustrations are given of some kindergarten rooms and buildings of the best types and lists of the equipment used in some of the best-known kindergartens. I am transmitting the manuscript for publication as a bulletin of the Bureau of Education.

Respectfully submitted.

P. P. CLAXTON,
Commissioner.

The SECRETARY OF THE INTERIOR.

THE HOUSING AND EQUIPMENT OF KINDERGARTENS.

[This bulletin was prepared with the cooperation of a committee of the International Kindergarten Union, Miss Grace L. Brown being chairman, and with the help of Miss Grace M. Janney.]

PART I.

The kindergartner who is responsible for the housing of a kindergarten may have one of three problems to solve. She may be given a room originally built for some other purpose, in which case her problem is that of adaptation. She may be consulted as to the features she would like incorporated in a large school building where she must accept the limitations necessary to the architectural unity of the building. Or she may have the pleasure and the responsibility of planning a building where only the needs of the younger children in a school are to be considered.

THE KINDERGARTEN IN THE LARGE SCHOOL.

If the kindergarten is to be in especially planned rooms in a large school, the rooms should have the morning sun and be large enough to admit of the free playing of varied and active games. There should also be a space where construction work may be kept for a period of days if necessary, until the project of which it is a part shall be completed. Dr. Dresslar, in his book on "American School-houses," gives from 24 to 25 feet wide by from 32 to 33 feet long and from 12½ to 13 feet high as the ideal size for a schoolroom. He states that the width of a schoolroom, where unilateral lighting is used, should never exceed twice the distance from the floor to the top of the windows. In the kindergarten, where the position of the furniture can be easily changed to suit the lighting conditions, and where a great deal of room is needed for games and rhythmic exercises, one room of the size he gives is not sufficient for a kindergarten of 50 children.

In the Marshall School, Dorchester, Mass., the kindergarten occupies three rooms. One, the play room, is 35 feet by 35 feet 8 inches and has an entrance into the school yard. At one end are two classrooms 17 feet 9 inches by 19 feet 9 inches each, which open into the large room by wide folding doors.

The kindergarten at the John D. Philbrick School, Boston, Mass., has a room 40 feet long by 20 feet 6 inches wide, which can be divided into two rooms for the work period by folding doors. Miss Aborn, the supervisor of kindergartens in Boston, suggests that 5 feet added to the width of the room would be a great improvement.

The report of the First District California Congress of Mothers and Parent-Teacher Associations gives 35 feet by 55 feet or 40 feet by 60 feet with a ceiling from 10 to 12 feet high as the proper size for a one-room kindergarten.

No room should be used even for a playroom which is more than 2 feet below ground.

THE LOCATION.

If a house is to be built for the use of the kindergarten, its location is important. There should be plenty of air and sunshine and restful quiet. There should be ample ground for gardens and the keeping of pets, which might include a mother hen and her chicks and a mother rabbit and her babies.

Dr. Dresslar, in making an especial plea for the building of schoolhouses in quiet places, says: "Most children who live in the larger cities are bathed in a constant turmoil of noise both day and night, and as a result their nervous systems are levied upon incessantly to no purpose at all."

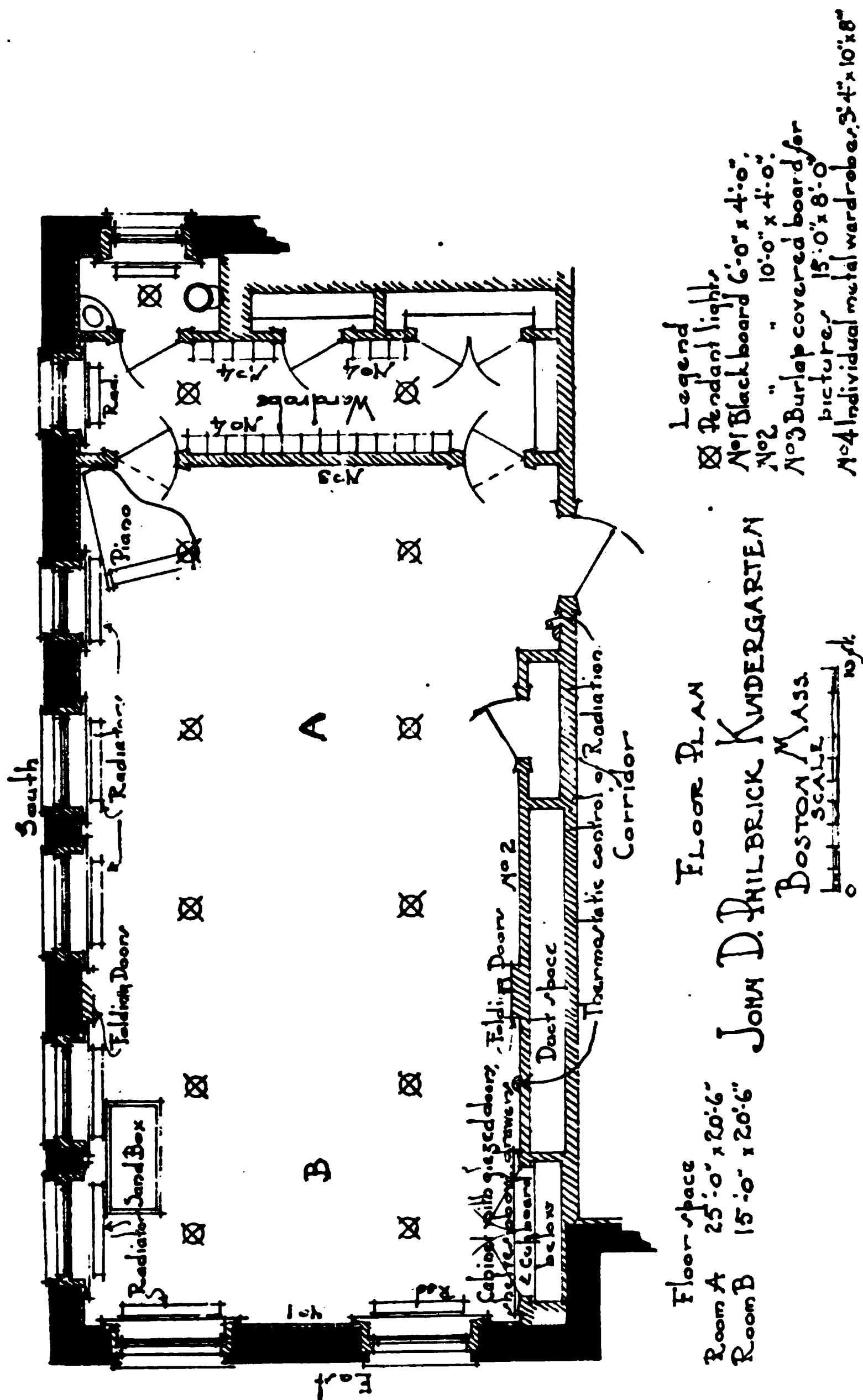
He advocates the building of schoolhouses in quiet places and furnishing the children with free transportation, as is done by means of school vans in rural districts.

THE HOUSE PLAN.

If the kindergarten building is to be planned for use in a northern climate, the kindergarten at Wellesley College is well worth studying. The location is ideal. The building has a simple and dignified exterior and a charming interior. The kindergarten rooms are at the back and long windows open directly into the garden. The one criticism that might be made of the Wellesley school is that the basement playrooms are too far underground.

Whatever the climate, all possible out-of-door work should be encouraged. Of course, the greatest possibilities for regular outdoor kindergartens will be found in the South and Southwest. Edward Hyatt, formerly superintendent of public instruction for California, has some very interesting plans, pictures, and descriptions of open-air schools and one-story schools built in the mission style of architecture, in a report on "School Architecture in California." The picture on page 61 of this book shows an attractive open-air classroom at San Bernardino. The window arrangement makes it possible to have an open-air classroom in fair weather or to have protection in foul weather.

The First District California Congress of Mothers and Parent-Teacher Associations have issued from Los Angeles a very compre-



hensive report on the proper housing and equipment of kindergartens. The committee states that it will forward, on request, plans of the

different types of buildings described. Their report is well balanced and full of valuable suggestions.

Whenever possible the kindergarten building should be of fire-proof materials. In the South and Southwest, the mission style of architecture, built with thick, solid walls of concrete and red earthen tiles, makes an attractive building. The Francis W. Parker School, San Diego, Calif., is constructed of frame, finished on the outside with cream stucco and red mission tiles and on the inside with tan walls.

HEIGHT OF CEILINGS.

It should be remembered that rooms with high ceilings are more expensive to build, harder to heat, and are apt to have troublesome echoes. Ceilings should, however, be high enough to admit of the proper window area for the lighting of the rooms. For that purpose 12½ feet from ceiling to floor is usually sufficient.

THE FLOORS.

In fireproof buildings a single floor is sufficient, but in other buildings great care should be taken to insist on having double floors, with a layer between them of some material impervious to air and deadening to sound. Tarred paper is good to keep out the air, and an asbestos board or quilt will deaden sound.

LIGHT.

The amount of light necessary for the schoolroom varies with the part of the country in which it is situated. Dr. Dresslar states that in northern countries, with short days, windows equal to one-fourth of the floor area are often required, while in the sunny parts of the Southwest one-sixth is sufficient.

The windows in the kindergarten rooms should be low. They should be placed as close together as safety of construction will permit. If iron mullions are used they will make more glass surface possible with stronger construction. The window arrangement used in Public School No. 37, plate 154, in Dr. Dresslar's "American Schoolhouses," is very pleasing.

HEATING.

A most important place should be given the heating system of the school building. If the heating apparatus must be in the kindergarten room, a jacketed stove correctly placed is the most effective means of warming the room. If a furnace for the whole building is to be used, experts on heating systems must be consulted.

Certain points to keep in mind are that all hot-air furnaces should be supplied with some means of moistening the air before it is intro-

BUREAU OF EDUCATION

BULLETIN, 1921, NO. 13. PLATE 1.

REPRODUCED FROM THE BUREAU OF EDUCATION, WASHINGTON, D. C.

duced into the schoolroom, and that a system of thermostats should regulate the heat in the rooms automatically.

Dr. Dresslar says that children of primary age need 2,000 cubic feet of air per pupil each hour. He calculates that, although each child only breathes 18 cubic feet, the poisons of the air exhaled will vitiate more than 100 times as much. Because so much fresh air is required in a schoolroom, a furnace which is satisfactory in the ordinary home will not be satisfactory for a school. Provision must be made in school heating to install a system of ducts for fresh air and foul air and a motive power to force in the fresh, warm air and force out the impure, vitiated air.

Some arrangement should be made, in planning for such a system, to provide for foot warmers to be used in cold weather.

SCHOOL BATHS.

In progressive school systems, school baths have been tried and found to be a valuable asset. In some places it is required that each pupil take one bath a week at school or bring a written statement from home that he has had a bath. Physiologists and psychologists have long taught the value of cleanliness to bodily and mental strength. This means of minimizing sickness, restlessness, and inattention is too often neglected in school plans.

THE WALLS OF THE ROOMS.

Science has taught us that all bright colors lose their intensity when seen at a distance; the intervening atmosphere grays them. Therefore, to make the walls of a room appear to recede and give an air of spaciousness to the room, the color of the walls should be neutral rather than intense. In sunny rooms gray-green is good. In dark rooms light brown and buff tend to make the room seem lighter, while the walls retain their value as a background.

The color chosen should be darkest near the floor and lighter as it nears the ceiling. For instance, with woodwork from the floor to the line of the blackboard and with gray-green side walls, there should be a ceiling of very light gray-green or cream, which should be dropped to the picture molding.

If the color of the woodwork is in violent contrast to the color of the walls, its lines will stand out so prominently that the room will seem much smaller. The woodwork should harmonize with the color of the walls, and it should be dull and unobtrusive in finish.

In choosing the tints for walls and woodwork consider the rooms in their most unfavorable circumstance, so that there will be no temptation to select colors which are too dark.

CURTAINS.

Window curtains should be of plain, thin material, and should be hung straight to conform with the structural lines of the room. They should be used simply to soften the lines of the window frames and should not be allowed to obstruct the entrance of light and air.

SHADES.

Window shades of a neutral tint, harmonizing with the color scheme of the rooms, should be used. There should be two separate shades for each window, both fastened about two-fifths of the height of the window. The upper shade should pull down and the lower shade should pull up. Special brackets for these shades can be obtained. The shades should extend over each side of the window frame to keep out the streaks of sunlight that are often troublesome if the shades are too narrow.

PICTURES.

The pictures to be chosen for the kindergarten room should not only be selected for their artistic merit, but also for their value as fine interpretations of the world and its activities from the child's standpoint. In the kindergarten pictures are used in relation to the development of the subject matter of the program. They fall into three general groups, namely, those with a real art value, which should have a more permanent place on the walls of the room; those which illustrate specific subjects accurately and may be temporarily displayed; and those which are suitable for the making of scrap books. A valuable aid in the selection of kindergarten pictures will be found in the "Report of the Graphic Arts Committee," contained in the "Report of the Twenty-fourth Annual Meeting of the International Kindergarten Union," at Boston, Mass.

All the pictures should be framed simply. Due consideration should be given to the picture itself, to the wall upon which it is to hang, and to the other pictures in the room.

Pictures should be hung perfectly flat against the wall and low enough for the children to see. If the rules of the school decree that no nail holes may be made in the walls, each picture should be hung by two parallel cords of the color of the walls and as unobtrusive as possible.

Thought should be given to the balance of the room as a whole in the grouping of pictures and placing of furniture.

BULLETIN BOARDS.

Bulletin boards should be provided for the exhibition of children's work and the pictures and other objects which illustrate group interests but do not contain sufficient art value to become a perma-

nent part of the room. Satisfactory bulletin boards can be made by having large pieces of cork composition framed with a flat wood frame. The shape and size of such bulletin boards will, of course, depend upon the proportions of the spaces on the walls of each individual room.

VASES FOR FLOWERS.

The vases for flowers should be simple in material, beautiful in line, and restrained in color. Japanese flower holders will be found very useful in the effective arrangements of bouquets.

THE AQUARIUM.

The aquarium should be as large and as strongly constructed as is possible. If frogs are to live there as well as the usual fish and snails, a wire netting should be provided to fit over the top of the aquarium.

The report of the "Program and Details of Construction and Equipment for Grade Schools," prepared by C. L. Woolridge, superintendent of buildings in the public schools of Pittsburgh, Pa. (published in 1914), contains the specifications for the making of a practical aquarium. The tank is 2 feet long by 12 inches wide by 12 inches high. The sides are made of one-fourth-inch plate glass channeled into slate at the bottom and finished with lead corners and coping. The aquarium is built on a table-like stand 1 foot 6 inches high.

CLAY JARS.

If a large amount of clay is kept, the best place for it is the basement, but a quantity sufficient for at least one day's use should be kept in a large crock near enough for the children to reach easily so that they may help themselves.

BLACKBOARDS.

The blackboards should be low, about 2 feet from the floor. As blackboards absorb a great deal of light, only enough should be left in the room to meet the actual needs of the kindergarten. A dark green board is often preferable to black. Blackboards should never be placed on the same side of the room as the windows.

CUPBOARDS.

Cupboard space should be carefully planned. The cupboards should be low enough for the children to reach so that they may get their own materials and keep the shelves in order. It would be valuable for each child to have a compartment in such cupboards where he could keep his own working materials and be held responsible for both the condition of his materials and his compartment.

These cupboards can be built in the rooms. If they are low and finished at the top with a broad shelf, they can be made a very attractive and decorative feature of the room. Wooden doors will protect the materials on the shelves. The broad shelf will make an excellent place for the aquarium, jars of flowers, and the various objects of interest belonging in kindergarten rooms.

If compartments for use by individual children are to be planned, care should be taken to make each space large enough to be of practical use. They should at least be long enough to hold a piece of construction paper and high enough to accommodate small pieces of unfinished construction work. Such spaces should be not less than 9 inches high by 12 inches deep by 15 inches long.

CHESTS.

Chests with hinged covers should be provided for the storing of floor blocks and miscellaneous construction materials. Such chests can serve as seats if properly placed.

Miss Mary Pennell, of Kansas City, Mo., gives the following proportions for the building of such a chest: Fifty-two inches long by 20 inches high by 20 inches wide. The height of 20 inches is to include the height of the casters.

FLOOR COVERING.

A floor covering of a heavy cork composition, such as is used in the kindergarten at Wellesley College, or the cork tiles used at Downers Grove, Ill., are ideal ones. They are easily cleaned, deaden sound, and soften tumbles.

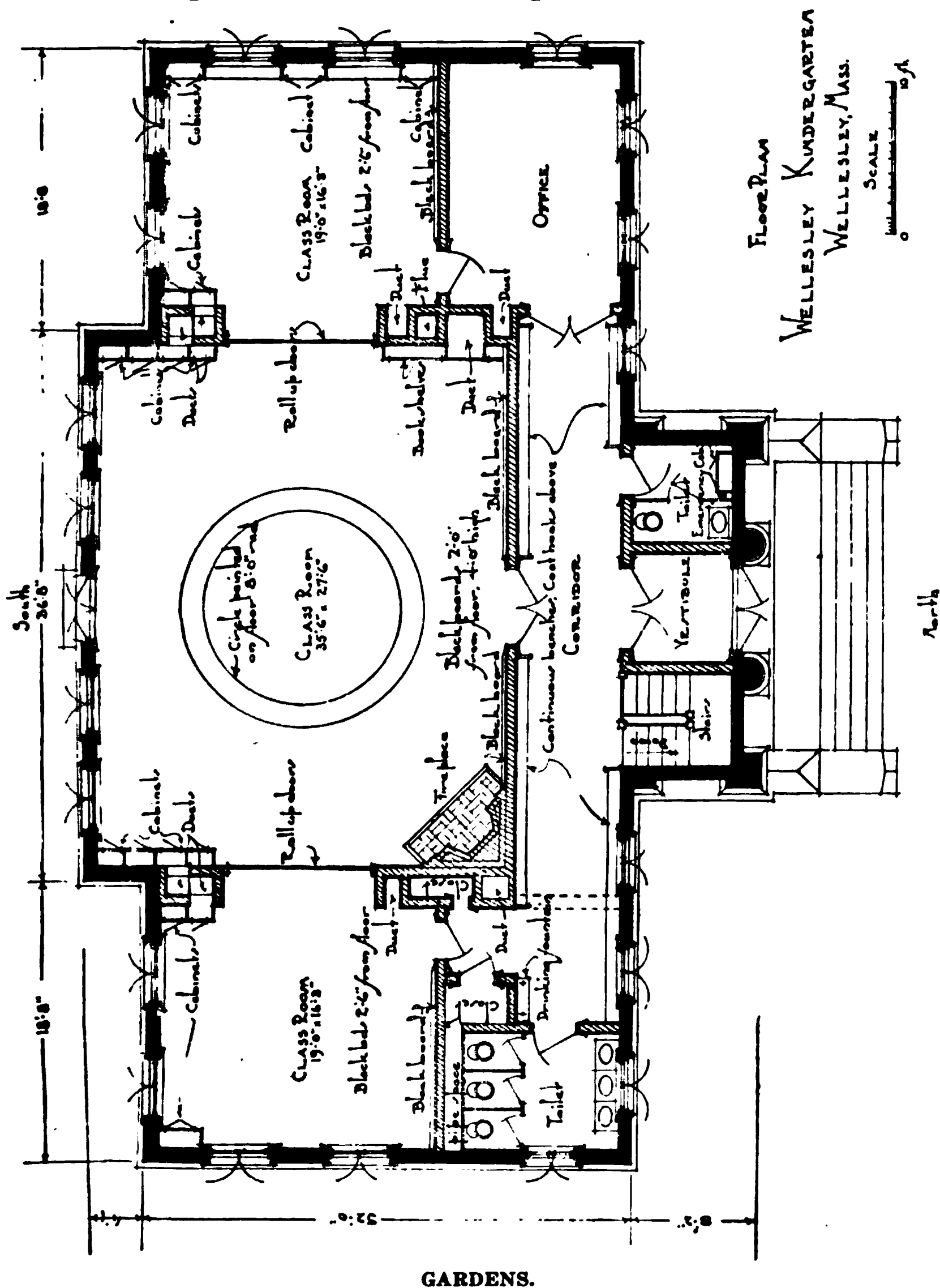
TOILET ROOMS.

A most important subject for the consideration of the kindergarten is that of toilet facilities for the children. Kindergarten children should have access to drinking fountains, stationary wash basins, and toilet seats of the proper size so near their rooms as to be under the constant supervision of the teachers. One toilet seat for boys and one for girls should be provided. While the toilet rooms should be airy, warm, and well lighted, the plan for their ventilation must be separate from that of the schoolroom. The foul air from toilet rooms should never be allowed to enter a schoolroom. In new buildings these requirements are almost always included in the architect's plans, and usually in old buildings a persistent seeker will find a place which can be converted, more or less satisfactorily, to this use. A plentiful supply of liquid soap and paper towels should be furnished.

CLOAKROOM.

Another important point is the planning of the cloakroom space. Few people realize how great is the possibility of the spread of con-

tagion where cloakrooms are crowded and badly ventilated. The ideal plan calls for individual, ventilated compartments, but if this is impossible, care should be taken to have the room well ventilated and the low hooks placed as far apart as is possible.



GARDENS.

Some plan for children's gardens should be made. If possible, each child should have his own plot in the school garden or a near-by vacant lot. If that is impossible, large shallow pans of zinc could be made to fit the window sills or shelves in front of the windows. Each child could then have his own flower pot in which to grow his own

plant. The growing plants could be transferred to a house garden or the school window box as soon as they outgrow the pot. More seeds could be planted so that in time one pot could furnish for the child quite a varied garden experience.

Roof gardens, furnished with large boxes, can sometimes be planned in cities where lack of space makes a real garden impossible.

. OUTDOOR PLAYGROUND.

There should be an outdoor playground in connection with each kindergarten. The equipment list of the report of the First District California Congress of Mothers and Parent-Teacher Associations includes an adequate list of playground apparatus and an excellent detailed description of it.

PART II.

The modification in kindergarten practice which has taken place in recent years is illustrated by a statement in the Bureau of Education bulletin entitled "The Kindergarten Curriculum" (Bulletin, 1919, No. 16), which says:

"Educators are to-day seeking to develop in children initiative and reflective thinking. The first prerequisite of productive thinking is a problem which seems to the child real and worthy of solution."

The foregoing conception of education calls for changes in some of the traditional kindergarten materials and for the addition of other supplementary materials. In addition to this educational standard for the measurement of the worth of working materials, there must be added the health standard which rejects as harmful those materials which are so small and exacting as to overstrain nerves and small muscles.

In June, 1919, questionnaires were sent to groups of experienced teachers asking for information as to their present equipment and the kind of equipment they desired for their kindergartens. A summary made from these questionnaires shows that certain tendencies are widespread. Of the number now having small blocks in their equipment, less than 10 per cent would include them in an equipment list for a modern kindergarten. On the other hand, the desire for some form of large floor blocks and enlarged fifth and sixth gifts is practically universal. A very small percentage of teachers list such materials as small tablets, small sticks, small rings, paper weaving, parquetry, straws, and chain papers, while many teachers select such materials as large sticks, woodworking materials, industrial sewing, and weaving. The desire for toys and outdoor playground apparatus is practically universal.

The kindergarten equipment lists which follow are merely suggestive, and it is expected that selection will be made according to the special needs in various localities.

FURNITURE.

Tables.—Tables made by manufacturers of kindergarten materials are expensive. It would be much cheaper and quite as satisfactory to have tables made by local carpenters or to adopt ordinary kitchen tables by shortening the legs. The modern development of kindergarten work results in the division of the kindergarten into smaller and more spontaneous groups and in the use of small tables seating two or three children. It also entirely eliminates the need for the tables checked with 1-inch squares. The First District California Congress of Mothers and Parent-Teacher Associations describe such a carpenter-made table in a report published by them in 1917. The proportions they use are 20 by 36 inches for the top and 20 inches high for use with chairs 12 inches high, or 18 inches high for use with chairs 10 inches high. A similarly made table with a square top 30 by 30 inches will be found to be satisfactory. One such table should be allowed for two children.

Chairs.—The chairs for the children should be of a type which meets the requirements set by hygienic experts. They should be provided in two sizes, 10 and 12 inches high, and should be finished with rubber tips.

Larger chairs should be included in the equipment for teachers and visitors.

Sand table.—A practical sand table can also be made by a local carpenter. A convenient size for the tray to hold the sand is 3 feet by 5 feet and 4 inches deep. This tray should be lined with zinc and fastened to four strong legs finished with castors. The whole structure should be not more than 24 inches from the floor to the top of the tray.

Musical instruments.—A kindergarten equipment should include a piano or phonograph or both. If only one instrument can be furnished, the piano is better, because it can be quickly adapted to meet the musical needs of the child. While there are distinct limitations in the adaptation of the phonograph to kindergarten uses, excellent records for music appreciation, marches, and rhythms can be obtained, as well as a few kindergarten songs and games. The phonograph will be of great value in the school where the teacher is without musical ability, and in the school where one teacher is required to be musician and director at the same time.

Toy musical instruments, such as drums, cymbals, tambourines, bells, triangles, etc., should be provided for the use of the children. Much valuable rhythm and tone work can be done with such a collection.

Music books.—The Bureau of Education bulletin entitled "The Kindergarten Curriculum" (Bulletin, 1919, No. 16), prepared by a

committee of the International Kindergarten Union, contains a chapter on "Music in the Kindergarten," with a comprehensive list of music books and songs.

DIFFERENT TYPES OF LISTS.

Three types of lists are given in this bulletin, which are intended to meet the following needs: (1) Where the expenditure must be limited; (2) where the expenditure will allow for an adequate equipment; (3) where the work is experimental in character, and a large variety of material is called for.

Even in a minimum equipment list the selection of materials will vary with conditions. In a kindergarten that is located in the town or country, or in a city kindergarten that is near a large park, the children will be able to spend a part of every morning out of doors, and will also have an opportunity to collect nature material. These experiences are more valuable than working or playing with perfected materials. But when a kindergarten is located in a crowded city, and nature experiences are more limited, it is necessary to provide a more complete indoor equipment. An adequate equipment for the right development of children from 4 to 6 years of age should be the aim, and not economy at the expense of the younger children in the school system. It is possible to practice economy in such a list as "A Minimum Equipment," and at the same time provide opportunity for the right development of the children. The materials that are absolutely essential for the right kind of kindergarten work are: Clay and sand, building blocks, paper, paste, scissors, and colored crayons. Permanent material should be of the best quality. For example, the blocks should be cut accurately, and, if possible, be of hard wood. In equipping a kindergarten it is better to begin with small quantities of the best quality of permanent material and to build up the equipment from year to year. Cheap material that will have to be renewed or that will not enable children to secure the right kind of results in their work, such as uneven blocks, is poor economy. Cheap scissors are a waste of money.

But economy may be practiced with material which children use for experimentation, such as paper, and cheaper paper may be used in the place of colored paper cut in prepared shapes.

In "An Adequate Equipment," the newer materials are listed that are being incorporated in the modern kindergarten. In such a kindergarten as that of the Horace Mann School of Teachers' College, Columbia University, a wealth of material is needed because of the experimental character of the work. Here the needs of the child are being studied in relation to many kinds of stimuli with a view to selecting those that are best suited to children of kindergarten age.

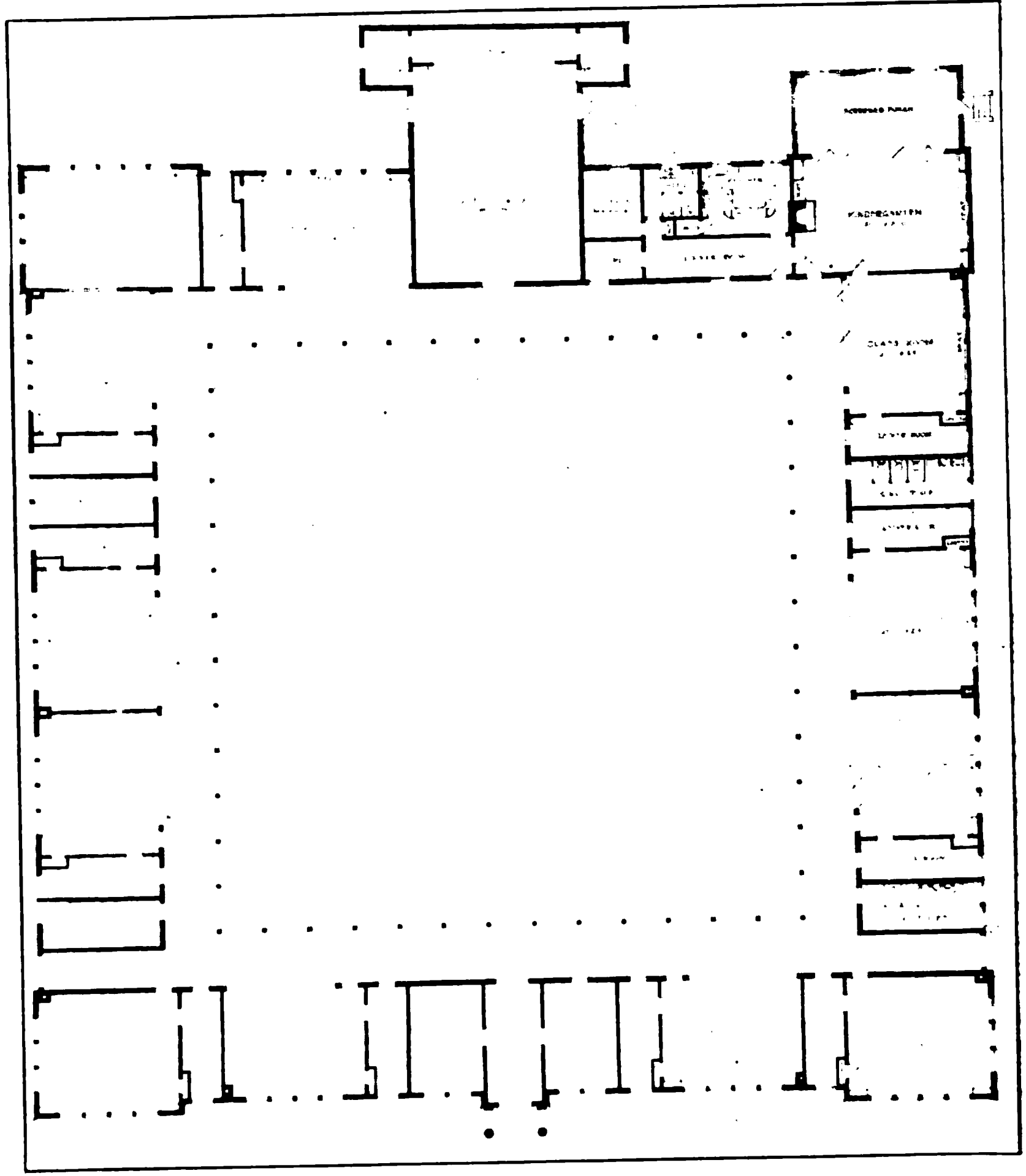
B KINDERGARTEN ROOM, WELLESLEY COLLEGE.

Note the low cupboards, the excellent type of children's chairs, and the low blackboards.

A FRANCIS W. PARKER SCHOOL OF SAN DIEGO, CALIF.

B. KINDERGARTEN DIVISION OF FRANCIS W PARKER SCHOOL, SAN DIEGO, CALIF.

KINDERGARTEN, STATE NORMAL SCHOOL, SUPERIOR, WIS.



PLAN OF THE FRANCIS W. PARKER SCHOOL, SAN DIEGO, CALIF.

This equipment is in no sense intended for the kindergarten of the average school.

A MINIMUM EQUIPMENT LIST FOR A KINDERGARTEN OF 30 CHILDREN.

Because lack of financial support is often an obstacle to the establishment and maintenance of kindergarten classes, the minimum equipment list carries the suggestion that much of the permanent equipment can be made at a considerably smaller cost by the students of local manual training schools or by local carpenters. This list also includes prices obtained from recent catalogues. These prices are subject to change, and, therefore, it has not been thought practical to include prices in the other lists.

The pictures and songbooks required will vary with the type of work planned by the teacher of each class. If no unnecessary material is to be bought, the teacher should be consulted before such lists are completed. Modern additions to the group of pictures illustrating specific subjects will be found in "The Farm Book" and "The Railroad Book," by E. Boyd Smith, published by the Houghton Mifflin Co., and in "The Modern Trade Pictures," published by Milton Bradley Co.

Music books, which contain short songs planned for small children and which should be included in kindergarten minimum equipment lists, are:

1. **First-Year Music**—Hollis Dann. American Book Co., New York City.
2. **Child Land in Song and Rhythm**—Jones-Barbour. Arthur Schmidt, New York City.
3. **Mother Goose Melodies**—Elliott. McLaughlin Bros., New York City; or **Mother Goose Songs**—Ethel Crowinshield. Milton Bradley Co., Springfield, Mass.
4. **Song Primer (teacher's edition)**—Bentley. A. S. Barnes Co., New York City.
5. **Small Songs for Small Singers (edition without pictures)**—Neidlinger. G. Schirmer, New York City.
6. **Children's Old and New Singing Games**—Hofer.

Suggested additions to a minimum list of music books would include:

1. **Song Stories for the Kindergarten**—Hill. Clayton F. Summy, Chicago, Ill.
2. **Songs for the Child's World No. 1**—Gaynor. Milton Bradley Co., Springfield, Mass.

First Gift.—Worsted balls of each of the six spectrum colors can be easily knitted or chocheted and filled with some soft substance. As these balls are to be used as color standards for the children, care should be taken in the selection of pure colors.

Building Blocks.—It is not necessary to include both enlarged Fifth and Sixth Gifts and floor blocks in a minimum equipment list, but it must be remembered that they do not fill identical needs.

The floor blocks are primarily intended for the construction of large buildings and for the bridging of wide spaces, while the Fifth and Sixth Gifts are used for the creation of more varied and perfect forms, as illustrated in the picture of the Superior State Normal School Kindergarten. Sets of blocks of different types, as well as the enlarged Fifth and Sixth Gifts, may be purchased from manufacturers of standardized materials, but it is more economical to have such blocks made by local carpenters or manual training schools.

The set of floor blocks, planned by the First District California Congress of Mothers and Parent-Teacher Associations, is as follows: Forty-eight blocks, 36 by 3 by $1\frac{3}{8}$ inches; 20 blocks, 24 by 3 by $1\frac{3}{8}$ inches; 36 blocks, 12 by 3 by $1\frac{3}{8}$ inches; 100 blocks, 6 by 3 by $1\frac{3}{8}$ inches; 50 blocks, 3 by 3 by $1\frac{3}{8}$ inches; 50 blocks, 6 by 6 by $1\frac{3}{8}$ inches cut diagonally.

Specifications for a set of blocks made from thinner wood and therefore cheaper in price are furnished by Mrs. Mary Barker, of Worcester, Mass.: Forty-eight blocks, $31\frac{1}{2}$ by $2\frac{5}{8}$ by $\frac{7}{8}$ inches; 40 blocks, 21 by $2\frac{5}{8}$ by $\frac{7}{8}$ inches; 72 blocks, $10\frac{1}{2}$ by $2\frac{5}{8}$ by $\frac{7}{8}$ inches; 200 blocks, 51 by $2\frac{5}{8}$ by $\frac{7}{8}$ inches.

Miss Alice Temple, in her Survey of the Kindergartens of Richmond, Ind., gives still another good plan for a set of floor blocks. Her plan includes 6-inch cubes, a form not used in the already listed specifications: One hundred and fifty blocks, 3 by 6 by 12 inches; 100 blocks, 3 by 6 by 6 inches; 50 blocks, 3 by 3 by 12 inches; 25 blocks, 6 by 6 by 6 inches; 25 blocks, 6 by 6 by 6 inches divided in half diagonally; 40 blocks, 3 by 1 by 10 inches; 40 blocks, 3 by 1 by 24 inches; 20 blocks, 3 by 1 by 30 inches; 20 blocks, 3 by 1 by 36 inches; 12 blocks, 72 by 1 by 10 inches.

Miss Mary Pennell, of Kansas City, Mo., gives a plan for making floor blocks which should supply about five kindergartens of 30 children each: Five hundred blocks, 4 by 2 by 1 inches; 650 blocks, 8 by 2 by 1 inches; 50 blocks, 2 by 2 by 1 inches; 250 blocks, 16 by 2 by 1 inches; 50 blocks, 2 by 2 by 2 inches cut diagonally once; 150 blocks, 36 by 1 by $\frac{1}{4}$ inches; 150 blocks, 18 by 1 by $\frac{1}{4}$ inches; 150 blocks, 36 by 2 by $\frac{1}{4}$ inches.

Fifth Gift.—Twenty-one cubes, 2 by 2 by 2 inches; 3 more cubes cut diagonally once; 3 more cubes cut diagonally twice.

Sixth Gift.—Eighteen oblong prisms, 1 by 2 by 4 inches; 6 more oblong prisms cut in half lengthwise, 4 by 1 by 1 inches; 6 more oblong prisms cut in half crosswise, 2 by 2 by 1 inches.

Paper.—Construction paper: Size 9 by 12 inches, suitable for cardboard construction, mounting pictures, and for certain types of paper cutting. Each package to contain 100 sheets: Two packages of dark brown; one package of gray; one package of dark blue; two packages of light blue; two packages of green; one package assorted.

Bogus paper: Size 9 by 12 inches. This paper is similar in weight to the construction paper and can be used for the same purposes except where color is important. It comes in gray only and is much cheaper than the construction paper. It can be used for experimental work. Each package contains 250 sheets: Four packages.

Drawing paper: Size 9 by 12 inches. White drawing paper is much more expensive than the manila drawing paper, and for experimental work the manila paper is excellent: One ream white; two reams manila.

Paper for folding and cutting: Papers listed by Milton Bradley as "Tonal Papers" and by Prang as "Enginex," put up in packages of 100 sheets each, with assorted colors in each package: Twelve packages, 5 by 5 inches square; 12 packages, 9 by 12 inches oblong.

Gold and silver paper for Christmas-tree decorations: Four sheets silver, 20 by 24 inches; two sheets gold, 20 by 24 inches.

Weaving materials.—In a minimum equipment list, weaving need not be included. If weaving is included it should be of the industrial type which is done on looms. Wooden looms may be made locally. Weaving cards, $5\frac{1}{2}$ by 7 inches, made of heavy cardboard, with 13 holes at top and bottom, are very satisfactory, or cards with slits at top and bottom may be used. Practical weaving materials are cotton jute for the warp and cotton roving for the woof. The roving may be procured in a number of attractive colors.

Sewing materials.—It is also unnecessary to include sewing in a minimum equipment list. If it is desired to include card sewing, small square cards, large square cards, and oblong cards, similar to Nos. 2, 4, and 6 in the Lanzettel Series, listed by Milton Bradley Co., should furnish sufficient variety. Sewing of a decorative nature, done on coarse materials such as the "Stencillex" listed by Prang, may be substituted for the card sewing. Cotton cloth, large needles, and coarse thread may be provided for making dolls' clothes, etc.

Stringing materials.—Hailman beads, 1 box containing 1,000 beads with assorted forms and colors. Two dozen shoe laces.

Enlarged sticks (uncolored).—One hundred sticks, 1 inch; 100 sticks, 2 inches; 100 sticks, 4 inches; 100 sticks, 6 inches; 100 sticks, 10 inches.

Paints and crayons.—A box of crayons containing six colors and brown and black should be provided for each child, so that he may have ample opportunity for experimentation and representation with color. If funds permit, 15 paint boxes, a paint brush for each child, and 15 small pans for water should be added to the equipment. Each box should contain six colors, brown and black.

Clay.—Twenty-five pounds of clay and a large jar to keep it in. Clay may be obtained, in powder form, in packages of 5 pounds each.

It can then be mixed with water as needed and will be found very satisfactory.

Paste.—Five pints of library paste. Paste may be obtained in powder form and should be most satisfactory in communities where transportation is difficult. Fifteen small brushes or two bundles of soft wood slats $4\frac{1}{2}$ inches long should be provided for pasting.

Scissors.—Fifteen pairs, blunt pointed, 5 inches.

White chalk.—One gross.

Paper fasteners.—Three boxes.

Sand.—One barrel.

Glass prism.—One.

Paper cutter.—One, with 15-inch blade.

Punch.—One.

American flags.—Thirty cotton (8 by 14 inches).

Miscellaneous materials.—The following materials should have a place in each kindergarten, but the amounts to be provided vary so with the individual community needs that a list of the different articles is all that can be given: Dust pans and brushes; small brooms; dusters and dish towels; small pitchers and basins; paper towels; soap; paper napkins; garden tools, consisting of small rakes, hoes, trowels, spades, and watering cans; carpenter tools, consisting of hammers, nails of assorted sizes, and small saws; pieces of soft wood.

Toys.—The modern type of kindergarten work requires toys that will help carry out the children's play activities. These toys should include dolls and picture books.

Home materials.—In addition to the materials ordered for the school valuable use may be made of many things thrown away as trash in every home, store, and school. There are many possibilities of construction in shells, toothpicks, match stems, ribbon bolts, spools, berry boxes, collar buttons, milk-bottle tops, string, worsted, feathers, wooden button molds, cardboard, tablet backs, boxes, pieces of smooth wood, colored papers, pins, flowers, vegetable and furniture catalogues, raffia, pieces of cloth of various colors, etc.

Encouraging children to collect and use materials which might otherwise be wasted for the satisfying of their play needs stimulates observation, encourages thrift, and quickens imagination. It also prevents home play from deteriorating into the passive acceptance of the limitations of ready-made toys and encourages the creation of home-made toys. Best of all, if the use of such materials is encouraged in the school the ease with which they can be found and used at home will be the means of bringing school interests and home interests into a close and vital relationship.

THE APPROXIMATE COST OF A MINIMUM KINDERGARTEN EQUIPMENT FOR 30 CHILDREN.

The prices quoted in this list are approximate only. While the catalogues consulted quote recent prices, changes are likely to be made at any time. Carpenter-made tables and blocks will be found to be much cheaper than those made by the manufacturers of standardized materials.

Furniture.—Thirty Mosher chairs, \$50; 14 tables (4 feet by 16 inches), \$182; 1 sand table, \$25; total, \$207.

Building blocks.—Twelve enlarged Fifth Gifts, \$27; 12 enlarged Sixth Gifts, \$27; total, \$54 or—1 set of Hill floor blocks, \$60.

These sums can be made much smaller if all the items except chairs are made locally.

Paper.—Construction: One hundred sheets (9 by 12 inches) to each package. One package of gray; two packages of dark brown; one package of dark blue; two packages of light blue; two packages of green; one package of assorted; total (nine packages), \$6.

Bogus: Two hundred and fifty sheets (9 by 12 inches) to each package, four packages, \$2.

Drawing: One ream (9 by 12 inches) to each package, two reams manila; one ream white; total (three reams), \$4.

Folding: One hundred sheets (assorted colors) to each package, 12 packages (5 by 5 inches), 12 packages (9 by 12 inches); total, 24 packages, \$8.40.

Gold and silver sheets: 20 by 24 inches, two sheets of gold; four sheets of silver; total, six sheets, 60 cents.

Grand total, \$21.60.

Stringing materials.—Hailman beads, 1,000 beads (assorted forms and colors) to each box: One box, \$2; two dozen shoe laces, \$1; total, \$3.

First Gift.—One set First Gift, \$2.

Enlarged sticks (uncolored).—One hundred, 1 inch; 100, 2 inches; 100, 4 inches; 100, 6 inches; 100, 10 inches; total (500), \$1.20.

Crayons.—Thirty boxes (six colors and brown and black), \$4.50.

Painting materials.—Fifteen boxes (six colors and brown and black and with brush), \$7.50; 1 dozen No. 7 paint brushes, 80 cents; 15 water cups, 70 cents; total, \$9.

Clay.—Twenty-five pounds clay powder, \$2.

Paste.—Five pints paste, \$2.80.

Scissors.—Fifteen pair, sharp point, 5-inch, \$4.10.

Chalk.—One gross white, 40 cents.

Paper fasteners.—Three boxes, 90 cents.

Glass prism.—One, 50 cents.

Paper cutter.—One, 15-inch blade, \$12.

Punch.—One, 50 cents.

Rubber balls.—Six, 6 inches in diameter, \$5.10.

Total for working materials, except building blocks, \$69.

AN ADEQUATE EQUIPMENT LIST FOR A KINDERGARTEN OF 30 CHILDREN.

Building blocks.—Fifteen enlarged Fifth Gifts; 15 enlarged Sixth Gifts; 1 set Hill floor blocks; or—1 set floor blocks locally made and 15 enlarged Fifth Gifts; 15 enlarged Sixth Gifts (to be purchased in bulk).

First Gift.—One ball for each child.

Enlarged sticks (uncolored).—Three hundred sticks, 1 inch; 300 sticks, 2 inches; 200 sticks, 4 inches; 200 sticks, 6 inches; 200 sticks, 10 inches.

Stringing materials.—Hailman beads: One box (1,000 beads) assorted colors and forms; one box (1,000 beads) uncolored, assorted forms; one box (500 beads) enlarged, spheres, assorted colors.

Enlarged peg boards.—Fifteen peg boards, with pegs.

Crayons.—Thirty boxes (six colors and brown and black).

Painting materials.—Fifteen paint boxes (six colors and brown and black, with brush); 2 dozen No. 7 paint brushes; 15 water cups; tempora colors (for poster work); or—fresco paints, one set (containing six colors, black, white, and brown); two large brushes.

Pencils.—Two dozen (with large lead).

Blackboard materials.—One gross white chalk; one set lecturer's colored crayons (for teacher's use); six blackboard erasers.

Paper.—Construction: 9 by 12 inches (100 sheets per package)—two packages gray; two packages dark brown; one package dark blue; three packages light blue; three packages green; one package assorted. 12 by 18 inches (100 sheets per package)—one package brown; one package green.

Bogus: 9 by 12 inches (250 sheets per package)—six packages.

Drawing: 9 by 12 inches—2 reams white; 2 reams manila.

Folding and cutting ("Enginex," listed by Prang, or "Tonal," listed by Milton Bradley Co.): Twelve packages, 6 by 6 inches, assorted colors; 12 packages, 6 by 9 inches, assorted colors; 4 packages, 6 by 6 inches, black; 2 packages, 5 by 5 inches, circular, assorted colors.

Gold and silver: Two sheets, gold, 20 by 24 inches; six sheets, silver, 20 by 24 inches.

Practice: 7½ by 9 inches—two bundles (10 packages each).

Manila wrapping (for poster work): One roll with holder.

Clay modeling materials.—Fifty pounds clay; one clay jar; 1 dozen clay modeling tools; 2½ dozen clay boards, 7 by 9 inches.

Pasting materials.—Six pints paste; 2 dozen paste brushes; or four bundles splints, 4½ inches; 2 dozen paste dishes.

Weaving materials.—Six packages industrial weaving mats (listed by Milton Bradley Co.); one Tyndall loom (listed by Milton Bradley Co.); 2 dozen 10-ply weaving cards, $5\frac{1}{2}$ by 7 inches; cotton roving (for woof—obtainable in 1-pound spools): Two spools dark blue, two spools light blue, two spools brown, two spools green; cotton jute (for warp), 4 pounds.

Sewing materials.—Four packages tapestry needles (large). Worsted (Germantown): One-half hank, each of 6 colors, 1 tint and 1 shade with black and white. (There are many cotton substitutes which are much cheaper than worsted; two of them are "Angorina Fluffed Cotton," and "Cottondown Yarn.") Stencillex (listed by Prang): Four packages (25 pieces each), 9 by 12 inches. Thread, coarse: One spool white; 1 spool black. Two papers of coarse needles. Six small thimbles. Cloth of various textures and colors.

Woodworking materials.—One workbench; 4 hammers; 1 pound assorted nails; 2 saws; 1 brace and bit; 2 small planes; 1 dozen sheets assorted sandpaper; 1 pint glue; small quantity of paint (green, brown, red); stain (green, brown); varnish or shellac.

Pieces of soft wood (pine or basswood): Three dozen, 5 by $1\frac{3}{4}$ by $2\frac{1}{2}$ inches; 3 dozen, $1\frac{3}{4}$ by $2\frac{1}{2}$ by $2\frac{1}{2}$ inches; 3 dozen, 5 by $4\frac{3}{8}$ by $\frac{7}{8}$ inch; 3 dozen, $4\frac{3}{8}$ by $2\frac{1}{2}$ by $\frac{7}{8}$ inch. (The proportions of the pieces of wood are provided by Mrs. Mary Barker, of Worcester, Mass.) Odds and ends of soft wood from a carpenter or manual training shop.

Gardening materials.—Six watering cans; 6 trowels; 6 small hoes; 1 rake with iron teeth; 1 rake with wooden teeth; 1 small spade.

Housekeeping materials.—The amount of housekeeping materials to be provided will differ so much with the needs of the individual school that only the items can be given. They are as follows: Wash-bowls, pitchers, paper towels, paper napkins, cheesecloth dusters, dish towels, dish pans, small brooms, dustpans and brushes, small mops.

Toys.—The number of toys to be provided will vary with the type of program planned by the individual teacher, so that only items can be given: Dolls (large and small); doll furniture (cradle, carriage, house, dishes); toy animals; wagon; puzzles; sand toys.

A "*Kinderhaus*" or house screen.—Miss Alice Temple, in the "Survey of the Kindergartens," of Richmond, Ind., gives the following proportions for use in the building of a play screen locally: Four parts of the screen are 5 feet in height and $32\frac{1}{2}$ inches in width. The fifth part, which contains the door, is $5\frac{1}{2}$ feet high, but the same width as the others. Some provision should be made for at least one window.

Miscellaneous materials.—Twelve 4-inch rubber balls; 6 bean bags; picture books; story books; 2 wastebaskets; 1 churn; 2 cardboard clock dials; 30 cotton flags, 8 by 14 inches; 1 large silk flag; thirty

4-inch material trays; sufficient oilcloth to cover the children's tables; one 15-inch paper cutter; 4 boxes paper fasteners; 1 paper pins; growing plants; 1 prism; 1 large punch; 1 barrel sand; 30 pairs scissors, sharp pointed, 5-inch; 1 terrarium.

Home materials.—The collection of "home materials," listed in the minimum equipment list, should have an important place in every kindergarten equipment.

Equipment list from the Horace Mann Kindergarten.—Miss Hill gives the following list of the rich equipment in use at the Horace Mann experimental kindergarten:

Furniture and furnishings: Piano (music, cabinet); Victrola and Columbia graphophone (records); chairs and tables (different sizes of each); rocking chair; blackboard; bulletin boards for exhibiting children's work; sand box; individual lockers; step ladder (small); screen; box for blocks (built in); box for blocks (movable), 2; clock; thermometer (large); cups (individual); towels (small); vases, pitchers; button hooks; window boxes.

Apparatus: Slide, merry-go-round, ropes, walking boards, seesaw, horizontal bar, ladder.

Permanent play material: Floor blocks with additions; bars; wheels; mechanical sections; pillars; wooden planks (thin, for floors); blocks (miscellaneous in box)—one Third, Fourth, Fifth, Sixth Gifts, large and small, two peg lock, three spools, four odd blocks; 5 boards and heavy cardboard for roofing; beads (large and small, assorted colors); peg boards; large sticks; concrete tiles; compoboard for roof and floor.

Toys and playthings: Dolls (boys, girls, babies, several sizes of each; Schoenhut-Chase; small for dressing); doll and children's furniture; child's cradle; doll stove; rocking-horse (two); dishes (children's set, doll's set); wagon; doll carriage; hoop; balls; wooden rings; books; pictures; child's piano; band instruments; cooking utensils (animal cookie cutters); bubble pipes; churn; ice-cream freezer; washing and ironing set; flags; rope; wooden animals and trees; dishpan; broom and dustpan; mop; puzzles; stilts.

Tools: Carpenter bench; hammer, saw, brace and bit; ruler (yard and foot); large punch; compass; paper cutter; paints (individual boxes); crayons (individual boxes); scissors (pointed); thread; needles; thimble; clay knives; garden tools (hoes, spades, wooden rakes, garden rakes, watering cans); brushes, paint, paste; paint cups; paste boxes (individual); bodkins; chalk; clay boards; oilcloth; scroll saw; aprons for children.

Materials, art and industrial: Wood (different proportions); cloth (variety of texture and colors); worsted (eightfold Germantown, variety of colors); cotton roving (variety of colors); paper (differ-

ent grades and colors); tag board (different weights); clay; dyes (Easy, Diamond); shellac.

Primary materials: Printing alphabet, etc.; reading games; number games.

Live animals and cage: Bird; fish; visiting (hen and chickens, rabbits, mice, turtle, cat, dog, alligator, dove).

Equipment list from the First District California Congress of Mothers and Parent-Teachers' Association.—The report of the First District California Congress of Mothers and Parent-Teachers' Association, published in 1917, lists the following equipment for kindergarten and playground:

Furniture, materials, etc., for the adequate, minimum equipment of a kindergarten for 25 children: Four sets, First Gift; 12 sets, Second Gift in boxes; 12 empty Third Gift boxes (enlarged); 12 Fifth Gift in boxes (enlarged); 12 Sixth Gift in boxes (enlarged); 200 tablets, enlarged, circles; 200 tablets, enlarged, squares; 300 tablets, enlarged, right-angle triangle; 200 sticks, enlarged, plain, each 2 inches, 4 inches, 6 inches, 10 inches, 12 inches; 200 rings, $1\frac{1}{2}$ inches; 100 rings, 2 inches, 100, 1 inch; 25 one-half rings, $1\frac{1}{2}$ inches; 25 one-half rings, 2 inches; 200 slats, plain, 10 inches; 200 slats, colored, 10 inches; 4 bundles slats, soft wood, $4\frac{1}{2}$ inches for paste; 1 box (large) Hailman beads, colored, small; 1 box Hailman beads, uncolored, small; 1 box (large) Hailman beads, colored (enlarged); 6 dozen bead laces; 25 bead trays; 25 peg tiles, enlarged; 1 box tile pegs, 1,000 pegs; 25 sticks crayola, each, red, green, orange, yellow, blue, violet, black; 12 sticks each crayola, pink, black, brown, white; 1 tube each, standard colors, red, orange, yellow, green, blue, violet, sepia; $1\frac{1}{2}$ dozen paint pans; 25 paint brushes; 1 box white chalk; 1 box chalk, colored (small); 1 prism; 1 lap each, Germantown, red, orange, yellow, green, blue, violet, brown, white, gray; 2 packages worsted needles No. 18; 6 packages, parquetry circles, each package containing 100 circles of each standard color; 2 packages each, folding squares 5 by 5 white and black; 1 package each, folding squares, black, gray, brown, 5 by 5; 1 package each, folding circles, solid colors, red, orange, yellow, green, blue, violet, gray, brown, black, 5 by 5; 1 package each, cutting squares, 5 by 5, solid colors, red, orange, yellow, green, blue, violet; 1 package each, cutting circles, 5 by 5, solid colors, red, orange, yellow, green, blue, violet; 1 package each cutting squares, 5 by 5, six standard colors with one tint and one shade and gray; ditto, cutting circles; 1 package black-coated paper, 6 by 9; 1 ream bogus paper 9 by 12; 1 ream gray water color, 9 by 12; $\frac{1}{2}$ ream white water color paper, 9 by 12; 1 ream newspaper; 2 quires tissue paper, white; $\frac{1}{2}$ quire tissue paper each, red, pink, orange, green, blue, violet, brown; 6 packages paper strips 1 inch wide (engine), solid standard colors;

1 package each, weaving mats, industrial, Nos. 1235, 1236 (Milton Bradley catalogue); 1 dozen Ball's weaving needles; 2 dozen each, sewing cards (shoe laces) Nos. 1 and 5; 25 each, sewing cards, Langzettel, Nos. 2 and 3; 2 dozen laces, cotton, colored; 1 each, construction paper, red, green, gray, brown, dull blue, 9 by 12; 1 each, construction paper, gray, brown, black, 12 by 18; 5 packages pins; 25 pounds clay flour; 1 clay jar; 3 yards oilcloth; 20 scissors No. 4; 1 conductor's punch; 5 pints paste; 1 box soda straws; 1 cork ball; 3 rubber balls, 4 inches; 6 boxes paper fasteners.

Furniture: 14 tables (tops 20 by 36; ten 20 inches high, four 18 inches high); 30 Mosher rubber-tipped chairs (two 14 inches high, fourteen 12 inches high, fourteen 10 inches high); 1 sand table (with adjustable cover), 6 feet by 4 feet and 2 feet high; 1 piano (may be rented); 1 teacher's desk; 1 American flag; 1 clock; 3 large chairs; 6 erasers.

Additional materials and toys: Dolls of all kinds, doll bed, table, wash tubs, irons, brooms, dishes, and a collection of other usable sanitary toys.

Shells, tooth picks, paper sacks, ribbon bolts, spools, berry boxes, nature materials, bean bags, collar buttons, milk bottle tops, paste-board boxes of all sizes, raffia, etc.

Large blocks: ¹ Forty-eight blocks, 36 by 3 by 1½ inches; 20 blocks, 24 by 3 by 1½ inches; 36 blocks, 12 by 3 by 1½ inches; 100 blocks, 6 by 3 by 1½ inches; 50 blocks, 3 by 3 by 1½ inches; 50 blocks, 6 by 6 by 1½ inches, cut diagonally.

Outdoor apparatus: Space not less than 60 by 60 feet. Sand bed: Size, 10 by 12 feet at least; height, 1½ feet; ledge on top, 10 to 12 inches wide.

Large box (padlocked), for miscellaneous blocks, spools, tins, shells, pails, shovels, these for use in sand bed.

Slide: This may be purchased from any playground apparatus house or it may be made locally. Height, 6 feet length of hardwood board for chute, 10 feet; edge (above board), 2 inches; approach—fence; landing—3 feet square; height of railing about landing, 1 foot. Slide should rest in sand or sawdust box 6 by 8 feet. Ground should be excavated to depth of 8 inches at base, so that top of box is almost even with ground. There should be a curve in the board at bottom of slide.

Ladder (double): Base, 45 inches; height, 45 inches; steps (8), 3 inches wide; material, pine.

Walking board: Length, 12 feet; width, 5 inches; elevation, 3 inches.

¹ We suggest the Hill blocks for floor use. These may be made locally in sloyd department or in a planing mill. Hardwood is used for all of the smaller blocks.

Swings: May be purchased at apparatus house or made locally with little expense. Baby swing (strapped seat) is recommended for kindergarten use. Frame work for any swing, wood or iron, 10 feet high; rope, $\frac{7}{8}$ inch to 1 inch preferred to chain. A strong rope knotted at bottom and suspended from the limb of a tree or a strong closed ring serves as a swing or climbing rope.

Turning bar: Two upright posts of wood or galvanized iron $3\frac{1}{2}$ or 4 feet high.

Seesaw: Length, 12 feet; height of horse, 2 feet; material, pine, ends cleated. Horse may be made of wood or iron. There should be a hand support at either end of teeter.

Tools: (a) Carpenter: Six hammers (cobblers); 1 crosscut saw (small); 1 coping saw; 1 key-hole saw; 3 size wire nails; 1 small plane (block); coarse sand paper; glue, paint, stain. (b) Garden—Three hoes, 3 rakes, 1 shovel, 3 trowels, 3 scratch-handle rakes, 3 watering pots (4 quarts).

Wooden boxes of various sizes are a great stimulus to all out-of-door play.

Tables and benches should be provided for out-of-door work; the ledge on sand bed may be used as a table.



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EDUCATION OF THE DEAF

By

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PRESIDENT OF GALLAUDET COLLEGE
WASHINGTON, D. C.

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EDUCATION OF THE DEAF.

By PERCIVAL HALL,

President of Gallaudet College, Washington, D. C.

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NUMBER OF SCHOOLS AND THEIR FORMS OF ORGANIZATION.

Since the publication of Dr. E. A. Fay's article on the Progress of Education of the Deaf in the Report of the Commissioner of Education for 1913 the number of public residential schools has not increased, remaining at 64. The number of pupils, however, has risen in this time from 10,837 to 11,103, the former number being 82 per cent of the pupils in 1912 and the latter number representing 80 per cent of all the deaf pupils under instruction in the United States in October, 1919.

The States of Delaware, New Hampshire, Wyoming, and Nevada have not yet established special schools for deaf children, but continue to provide for the education of their deaf children at public expense in other near-by States.

The public residential schools continue to offer excellent care and supervision over the pupils both in and out of school. As a rule, they provide free tuition, laundry, and necessary medical attention to all the children throughout the school term of about nine months. They also provide industrial training of high grade in many cases and continue to offer from officers of the institution moral and religious instruction to all the pupils whose parents do not arrange for their children to have special sectarian religious instruction.

The number of day schools for the deaf has now risen to 78, an increase of 8 since Dr. Fay's report. The number of pupils taught in these schools has increased from 1,773 (13 per cent) to 2,010, or nearly 15 per cent of the total number under instruction.

In October, 1919, there were 21 private and denominational schools in the United States, or one more than reported by Dr. Fay in 1912. The number of pupils in these schools has risen from 553 (4 per cent)

to 666, or 5 per cent of the total number under instruction. The relative proportion, therefore, of children instructed in the various types of schools has varied only slightly in the past seven years.

The same advantages which existed in the residential schools seven years ago may still be cited. They are as follows: Better industrial training, more careful physical attention, regular hours of study, exercise and work, simple diet, supervision of athletics and play by competent instructors, etc. Such schools also in general, because of the large number of children instructed, offer better graded classes than the smaller day schools are able to provide. A more homelike atmosphere has now been furnished in many of the large residential schools by the erection of cottages for small groups of children.

STATUS OF SCHOOLS FOR THE DEAF.

Progress is slowly being made in the classification of schools for the deaf as strictly educational institutions. During the past few years the State school at Council Bluffs, Iowa, has been placed under the board of education, and the school for the deaf in Florida is now classed distinctly with the State university and other educational institutions in all general legislation. Of course, the private schools have never been classed as charitable institutions, as Dr. Fay has pointed out, and the public day schools have always been a part of the common-school system of towns and cities in which they are located. No schools have been changed from an educational to a charitable status in recent years.

In late years very few of the public residential schools have been controlled in any way by politics. There are still a few in the United States in which the office of superintendent is made a political appointment, but as a rule all such positions and all of those on the teaching and domestic force have been filled by the appointment of people qualified to do the work required, without reference to politics.

The States of Illinois and New Jersey have placed many of the positions in their schools under the State civil service.

COMPULSORY EDUCATION.

The uneducated deaf man or woman may easily become a burden to society. The educated deaf person is a distinct asset. It is, therefore, especially necessary that there should be adequate compulsory school laws for the education of all deaf children. Only a small percentage of the States have satisfactory compulsory school-attendance laws for deaf children. One of the mistakes in existing laws in a number of States is the low age (from 16 to 18) at which deaf children may leave school. As the average deaf child has been shown by test to be some three or four years behind his hearing brother or

sister in progress in school, it is easy to see that compulsory school laws should require the attendance of deaf children up to 19 or 20 years of age.

The ages for compulsory schooling might well be between 6 and 19, or 7 and 20, and the term of school nine months.

The following model compulsory educational law was prepared at the instance of the conference of superintendents and principals of American schools for the deaf and submitted at a special meeting held at Staunton, Va., in 1914.

COMPULSORY EDUCATIONAL LAW.

Requiring the attendance upon school of deaf children of the State.

Be it enacted by the Legislature of the State of -----

Every parent, guardian, or other person having control of any normal child between ----- and ----- years of age, too deaf or defective of speech to be materially benefited by the methods of instruction in vogue in the public schools, shall be required to send such child or youth to the school for the deaf at the city of -----, during the scholastic year of that year. Such child or youth shall attend such school, year after year, until discharged by the superintendent upon approval of the board in control of such institution.

EXCUSING ATTENDANCE.

Such board may excuse attendance when satisfied:

1. That the child is in such bodily or mental condition as to prevent his attendance at school or application to study for the period required.
2. That he is afflicted with such contagious or offensive disease or possesses such habits as to render his presence a menace to the health or morals of other pupils, or for any reason deemed good and sufficient by the superintendent with approval of the board in control of such school.
3. That the child is efficiently taught for the scholastic year in a private or other school, or by a private tutor, the branches taught in the public schools so far as possible.

PENALTY.

Any such parent, guardian, or other person failing to comply with the foregoing section shall, upon conviction thereof before the justice of the peace or other court, be deemed guilty of a misdemeanor, and shall be fined in a sum not less than \$5 nor more than \$20 for the first offense, nor less than \$10 nor more than \$50 for the second and every subsequent offense, with costs in each case.

Any person who induces or attempts to induce any deaf or partially deaf child to absent himself or herself unlawfully from school, or employs or harbors any such child unlawfully from school while said school is in session, shall be deemed guilty of a misdemeanor, and shall, upon conviction thereof before the justice of the peace or other court, be deemed guilty of a misdemeanor, and shall be fined in a sum not less than \$5 nor more than \$20 for the first offense, nor less than \$10 nor more than \$50 for the second and every subsequent offense, with costs in each case.

That said fines as provided, when collected, shall be paid to the public-school fund of the county in which the child lives.

REPORT NAMES OF DEAF CHILDREN.

The principal teacher of every public school in the counties and the truant officers of the cities of _____, _____, and _____, shall, within 30 days before the close of the school year succeeding the passage of this act, and at corresponding period each succeeding year thereafter, furnish the county superintendent of schools or the board of education of the cities of _____, _____, and _____, as the case may be, with the name, age, sex, and address of parent or guardian of all normal children who are too deaf to be educated in the public schools, between the ages of _____ and _____ years, inclusive, living within the boundaries of his or her school district, and who do not attend school. And the county superintendent of schools, or the board of education of the cities of _____, _____, and _____, shall certify forthwith the names of all such deaf children, with address of parent, age, and sex, to the superintendent of the school for the deaf at the city of _____.

(Or)

It shall be the duty of the school census taker to report name, age, and sex of each deaf child in his district, and name of parents, guardians, or custodians, and their post-office address to the county superintendent of education or the truant officer of the cities of _____, _____, and _____, who shall send said report of names and addresses to the superintendent of the school for the deaf located at _____. That said census taker, county superintendent, or truant officer failing to make reports as provided in this act shall be fined \$5 for each deaf child not so reported. That said fines when collected shall be paid to the public-school fund of the county in which child lives.

(Or)

The provision of this act shall apply to children entitled, under existing statutes, to attend school at the school for the deaf, so far as the same are properly enforceable. Truant officer shall, within 60 days after the passage of this act, and annually between the first day of _____ and the first day of _____, report to the probate judges of their respective counties the names, ages, and residence of all such children between the ages of _____ and _____ years, with the names and post-office address of their parents, guardians, or the persons in charge of them; also a statement whether the parents, guardian, or person in charge of each child is able to educate and is educating the child, or whether the interests of the child will be promoted by sending it to the State institution mentioned. Upon information thus or otherwise obtained the probate judge may fix a time when he will hear the question whether any such child shall be required to be sent for instruction to the State institution mentioned, and he shall thereupon issue a warrant to the proper truant officer or some other suitable person to bring the child before such judge at his office at the time fixed for the hearing, and shall also issue an order on the parents, guardian, or person in charge of the child to appear before him at such a hearing, a copy of which order, in writing, shall be served personally on the proper person by the truant officer or other person ordered to bring the child before the judge. If, on the hearing, the probate judge is satisfied the child is not being properly educated at home, and will be benefited by attendance at the State institution mentioned, and is a suitable person to receive instruction therein, he may send or commit such child to such institution. The cost of such hearing and the transportation of the child to such institution shall be paid by the

county after the manner provided where a child is committed to a State reformatory: *Provided*, Nothing in this section contained shall be construed to require the trustees of the State institution mentioned to receive any child not a suitable subject to be received and instructed therein under the laws, rules, and regulations governing such institution.

Respectfully submitted.

J. N. TATE,
AUGUSTUS ROGERS,
A. H. WALKER,
Committee.

SCHOOL AGE.

The tendency to open the residential schools to very young children has grown to a considerable extent and has been one of the reasons for the construction in Morganton, N. C., Austin, Tex., Colorado Springs, Colo., Ogden, Utah, and in other residential schools of separate primary buildings where the younger children have their own special diet, their own playgrounds, classrooms, and general school life.

In a great many cases there seems little advantage in beginning school life so early, as children of this age can receive very little formal education of value. There is no doubt an advantage to those children, however, whose home surroundings are poor, in attending school at 5 or 6 years of age. It is probable also that considerable progress in lip reading may be made even at this early age, which may be of advantage later in the pupils' habitual use of speech in communicating with hearing people.

Well-graded beginners' classes of children from 7 to 8 years old, as a rule, seem to make as good final progress and obtain as good general accomplishment as classes of children entering a school at an earlier age.

SIZES OF CLASSES.

The number of pupils in a class in schools for the deaf has been reduced since 1912 from 10 to 9 in oral classes and from 12 to 11 in the manual classes. This is encouraging and necessary for the best instruction of deaf children. The methods of education demand a great deal of individual instruction. There is no reason, however, why manual classes should not be as small as oral classes, and it is most desirable that additional manual teachers be employed in many of the schools.

ORAL TEACHING AND THE COMBINED SYSTEM.

Of 13,779 pupils under instruction in October, 1919, in the United States, 11,238, or 81½ per cent, were taught speech. Of these, 10,376, or 74½ per cent, were taught wholly or chiefly by the oral method; 287, or 2 per cent, were taught wholly or chiefly by the auricular

method. The percentage taught wholly or chiefly by the oral method has increased steadily for many years until it is a question now whether the percentage who can profit best by oral methods has not been considerably passed. Interesting tests of manually taught pupils made by Dr. Pintner, of the Ohio State University, recently would seem to show that many manually taught children are making better progress than could be expected from their mentality, while practically no orally taught pupils are accomplishing the unusual.

It is to be regretted that in a number of schools the manual classes are made up almost entirely of mentally backward children and children entered late in school, and that they are so classified that several grades must be taught by one teacher in the same classroom. This hinders the progress of the children and leads to poorer results than would be obtained were manual classes better graded.

Most of the oral teaching done in the United States is carried on in the combined system schools. Of the children taught speech in October, 1919, eighty per cent were pupils of such schools.

In the combined system schools the method of instruction is supposed to be chosen to fit the individual child. In practice, all young children who enter these schools are placed in oral classes and kept there as long as their mental progress is good. There is no doubt that in some cases the desire of parents for the accomplishment of speech on the part of their children leads to the retention of children in oral classes in combined schools after they have ceased to make the progress which they should attain with their natural mental equipment.

As has been mentioned before, a number of the combined system schools have erected, or expect to erect, separate primary departments in which the younger children may be taught entirely orally and confirmed in the habit of the use of speech and lip-reading to a large extent. They are then transferred to the intermediate department and later to the advanced department, in each of which is maintained one or more manual classes. The manual alphabet and the language of signs is used in chapel exercises, on the playgrounds, and on social occasions with a large majority of these older children.

The adult deaf people of the United States have been, with few exceptions, educated in special schools for the deaf, some under the purely oral method and others under the combined system. These educated deaf people are organized in various ways, the largest body being the National Association of the Deaf, which meets every three years.

A large majority of these adult deaf people are strong in their belief that the use of the manual alphabet and the language of signs is to the general advantage of the deaf child's mental and moral growth. At a meeting of the National Association of the

Deaf, held during the summer of 1920 in Detroit, and attended by nearly 2,500 deaf people, the following resolutions in connection with the education of the deaf were passed:

Whereas much harm is done to the cause of the deaf, especially in their education, by misleading statements constantly made by enthusiasts of one method and another, arousing false hopes in the minds of deaf children, and

* * * * *

Whereas we believe our practical experience in life, after leaving a school, in actual contact with the affairs of the world as breadwinners, qualifies us to speak with authority and confidence as to which method, or methods, best fits the deaf to overcome their handicap, and as representing the 60,000 deaf men and women of this country, we ask the earnest attention of all unbiased people to the following declaration of principles:

We believe that every deaf child is entitled to the best education he can receive.

We believe that the oral method *alone* does not give every child this chance and that the method best adapted to the purpose of his education should be employed.

We believe that there is much good in the oral method, but that it is misused to the detriment of many children and that the manual method is not given a fair chance.

We believe that the moral, social, and religious welfare of the deaf is best promoted by the system of instruction which recognizes and makes judicious use of the cultural value of the language of conventional signs. That to fully enjoy the benefits of social, intellectual, and communal gatherings, the sign language is essential.

We believe, therefore, that these ends can all be secured through the combined system of instruction which includes all methods and adapts each to the individual requirements of the child.

We believe in compulsory education of the deaf.

We believe that method by law is wrong in principle, unjust in its execution, is un-American and deprives the deaf child of his birthright.

We believe that all schools should be classed with educational institutions only.

We believe that schools for the deaf should place their industrial departments on the same plane as their literary departments and maintain a higher standard in this department of the school than has usually been done.

AURICULAR INSTRUCTION.

Auricular instruction is given in the combined system schools as well as in the oral schools. It is thought by a number of educators of the deaf that much more attention should be given to auricular training. Added impetus to this kind of work has been given by the development of training in vibration and rhythm mentioned by Dr. Fay in his article. Aural and oral teachers in many of the schools are employing the piano and other musical instruments to increase the pupil's knowledge of pitch, rhythm, and vibration, and to acquire a more natural use of the voice. The increase in auricular instruction as a principal method has been from 1.36 per cent to 2

per cent since 1912. This percentage should probably be considerably larger. But auricular instruction has always been very largely individual. During the past 30 years various devices have been invented, including tubes and electrical apparatus, with several branches to accommodate up to six or seven pupils. But these have hardly met the varying needs of the partially deaf, so that a whole class can be easily handled together, and growth in this line of instruction has been slow.

INDUSTRIAL TRAINING.

Industrial training in schools for the deaf has undergone a considerable improvement in the past seven years. The younger deaf children are almost without exception now given simple training in handwork, such as weaving, and are given free-hand drawing and color work of various kinds. Later the boys are taught to use simple tools in woodworking. The younger girls and often the boys are given instruction in simple sewing. At about the age of 12 regular industrial work is introduced for both boys and girls. For the boys some 60 trades are taught among the various institutions in the United States. For the girls sewing, cooking, millinery, housework, printing, photography, nursing, poultry raising, tailoring, dress-making, laundry work, etc., are among the principal lines in which instruction is given.

The tendency in recent years has been to study the industries of the State and to provide first-class instruction in a few trades in each school rather than to branch out into a very large number. Printing, agriculture, tailoring, and carpentry work still remain some of the best trades for the boys, while dressmaking, millinery, sewing, and cooking seem to be most in demand for the girls.

The field of photography and photo-engraving is good, but has not been used by many of the schools as an opening for its pupils.

Equipment for industrial training naturally becomes out of date in the schools, but in almost all of the large residential schools good shops of considerable magnitude are maintained, and many of them are provided with modern machinery of the best kind for the trades taught.

As the independence of the deaf of this country has come largely from successful industrial training, this part of the work of instructing the deaf is very important and is one in which heads of schools are anxious to obtain the best results through proper equipment and efficient teachers. The schools are realizing more and more that instructors in industrial subjects must be trained teachers as well as good mechanics, and the demand for highly trained teachers of this kind has increased greatly in the past seven years.

SALARIES.

The salaries of teachers of the deaf have risen some 25 per cent in the past two years, but in most cases are not yet adequate to meet the increased cost of living. One of the greatest needs in the education of the deaf at the present time is a further increase in salaries paid, not only to the teachers in the academic classes but also to the instructors in industrial lines.

PENSIONS.

Teachers in the schools for the deaf in New York and in the State school at Trenton, N. J., are now entitled to pensions under the State laws, after certain periods of service. Ohio and California will pension teachers of the deaf in the course of a year. Every State should in time include its teachers of the deaf in a general pension system so that the special profession of teaching deaf children may be more attractive.

PREPARATION OF TEACHERS..

It has been impossible in the past few years to obtain enough candidates for training in the special work of instructing the deaf to meet the demands of the schools. The normal class at the State school for the deaf at Indianapolis has been disbanded, and a number of normal classes maintained at other schools have been unable to find enough candidates entirely to fill their capacity. The services of men have been especially hard to obtain and only a few have been trained for the work of instruction of the deaf in the past seven years. Practically all of them have been graduated from the training classes at the school for the deaf at Columbus, Ohio, or from the normal department of Gallaudet College, Washington, D. C. Higher salaries and pensions would no doubt attract both young men and young women to the profession.

An addition to the opportunities for normal training for special work with the deaf has been made by the establishment of a class in the New Jersey State Normal School at Trenton which will graduate candidates with teachers' diplomas after a two years' special course, including observation work in the State school for the deaf at Trenton and special study of the needs of deaf children.

NEW SCHOOL PLANTS.

A number of the schools for the deaf have added greatly to their capacity in the past seven years, notably the schools at Colorado Springs, Colo., Sulphur, Okla., and Austin, Tex. Entirely new plants are being built or planned for at the American School at Hartford, Conn., and the New Jersey school at Trenton. Both of these schools have purchased new sites much larger than those available heretofore. The American School will be rebuilt upon the old institution plan, practically all dormitories, classrooms, etc.,

being in one building. It is planned to rebuild the New Jersey school on the cottage system with a number of small buildings, including separate cottages for young children, intermediate grades, and older children, and separate school and shop buildings.

It is generally accepted among heads of schools for the deaf that the cottage plan of buildings is theoretically better for the development of children in a number of ways. Such plants are expected to answer the objection of the lack of home life in the older institutional buildings and to give better opportunities for supervision of play and study.

DUAL SCHOOLS.

A number of States still educate their deaf and blind children in the same institution. It is agreed everywhere that this is a mistake, except possibly from the point of actual expense of money. A number of dual schools are planning to separate their deaf and blind children in the near future. The authorities of the Virginia school are endeavoring to accomplish this, but a law for this purpose has so far failed of passage at the hands of the legislature. In California the dual school at Berkeley has been separated by law, but money for the establishment of a new plant for either the deaf or the blind children has not yet been provided.

METHODS OF SUPPORT.

Methods of support of public schools have changed little during the past seven years. Appropriations have been made by State legislatures in some instances in lump sums and in other instances on the per capita basis. The State of Colorado seems to have the best provision for general support. By law, a certain percentage of the total taxes collected by the State is used for the support of the State school for deaf and blind children.

Where per capita rates have not been raised liberally, State schools have been much handicapped in the past few years by the increased cost of supplies and materials, and a flexible plan of some kind like that used in Colorado, whereby the amount of money provided for the support of the school for the deaf increases with the increasing wealth of the State and also with the tax rate, would seem desirable throughout the United States.

The tendency in a number of States to include estimates for schools for the deaf in State budgets prepared by a central committee and to place entire financial control of appropriations and expenses in the hands of a State board of control has not met with entire success. Too little flexibility is usually allowed in any such plan.

It is also difficult for a board controlling a great many State institutions to take the same personal interest in any one school as a special board controlling a single institution.

LIP READING FOR THE ADULT DEAF.

Beside the 11,103 deaf pupils reported as in regular schools for the deaf, there are of course thousands of adults with more or less imperfect hearing. Many of these have great difficulty in carrying on conversation with hearing people. They have already received their general education in schools or colleges for normal persons. A great number of them have felt the necessity of the study of lip reading in order to improve their ability to understand speech.

These adult deaf people naturally do not need the instruction of the special schools for deaf children, but need individual or class instruction in the special art of reading the lips. Miss Bruhn, following the Mueller-Walle method, has instructed a considerable number of special teachers of lip reading, who have established classes in nearly all of the large cities of the United States for adults wishing to learn lip reading. Mr. Edward Nitchie, recently deceased, some years ago evolved a system of instruction in lip reading and established classes in New York City which have been carried on since his death by Mrs. Nitchie. Teachers using this system are also to be found in other large cities. •

A number of other more or less experienced teachers of the deaf have taken up this line of work which has resulted in great benefit to many adults with impaired hearing. It is now possible through the Volta Bureau at Washington, D. C., for those in need of such special instruction to get in touch with successful teachers of lip reading for adults in almost any part of the country and receive the benefit of their instruction.

EDUCATION OF DEAF SOLDIERS AND SAILORS.

An interesting phase of the education of the deaf during the past few years has been the provision for teaching sailors and soldiers who became deaf during the recent war. These cases consisted partly of temporary deafness caused by concussion and partly of permanent deafness caused by concussion, disease, accidents, or wounds. Dr. Charles W. Richardson, of Washington, D. C., commissioned major in the Medical Corps of the Army and later lieutenant colonel, was placed in charge of the whole plan for handling these soldiers prior to their discharge from the Army.

An able corps of experienced educators of the deaf under the charge of Capt. A. C. Manning, formerly of the Mount Airy School, was provided at Cape May, in base hospital No. 11. General educational facilities were provided here for all patients, deaf or otherwise, together with a considerable amount of shop or trades instruction.

The special teachers of the deaf confined their work almost entirely to the teaching of lip reading to the deaf soldiers received at the hospital, and the results accomplished were most satisfactory.

out. Both can be applied to hearing children as well as to the deaf. Over 2,000 pupils in our schools for the deaf have been tested by Dr. Patterson and Dr. Pintner and their assistants, and some very interesting results have been obtained in this way.

It has been the hope of those most interested in this work that by using the tests with large numbers of children comparisons can be made between the congenitally deaf and those who have become deaf later in life, between those taught orally and those taught manually, and between hearing children and deaf children of the same age. It has also been hoped that by testing whole schools and classes, both the especially bright and especially dull children, they can be graded better in their work; also that in a general way the quality of the work of the teachers of the school can be determined by comparison of material at hand and results obtained.

From the number of tests made already those in charge do not feel that it is safe to draw too definite conclusions. It appears, however, that deaf children on the whole are mentally about three years behind hearing children of the same age, but that once in school their progress is about as rapid.

It is hoped that a great many more tests of this kind will be made. If they can be relied upon to compare the value of the various methods of instructing the deaf, a great deal will be accomplished for the advancement of the education of deaf children.

A committee consisting of Mr. R. O. Johnson, formerly of the Indiana school; Dr. Augustus Rogers, of the Kentucky school; Dr. A. L. E. Crouter, of the Mount Airy school, and Mr. J. W. Jones, of the Ohio school, was appointed at the meeting of the conference of superintendents and principals at Staunton in 1914 to study the question of the efficiency of our schools for the deaf and to prepare a general scheme for the measurement of such efficiency. This committee has just published its report, which was submitted in brief at the meeting of the conference held at Columbus in December, 1919.²

From the work of the committee and the investigations of psychologists of proper standing and experience and with the cooperation of heads of schools for the deaf it seems possible that in the near future surveys of these schools will be made, including mental and educational tests, investigation as to equipment, industrial training, etc., which will lead to many helpful suggestions and improvements in the organization of all institutions devoted to the education of deaf children.

² Standardization—Efficiency—Heredity—Schools for the Deaf, Richard O. Johnson, A. M., Indianapolis.

DEPARTMENT OF THE INTERIOR
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MEDICAL EDUCATION 1918-1920

By

N. P. COLWELL, M. D.

Secretary of the Council on Medical Education and Hospitals of the
American Medical Association, Chicago, Ill.

[Advance Sheets from the Biennial Survey of Education
in the United States, 1918-1920]



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MEDICAL EDUCATION, 1918-1920.

By N. P. COLWELL, M. D.,

Secretary of the Council on Medical Education and Hospitals of the American Medical Association, Chicago.

CONTENTS.—Cooperation of the medical schools in war work—Status of medical education in 1917—Needs in medicine as revealed by the war—Recent progress in medical education—Medical teachers—Limitation of enrollments—Continuous sessions in medical schools—Hospital internships—No dearth of physicians—Graduate courses for the training of specialists—Graduate courses for physicians—Better legal control of the healing art—Thousands of remedial agents—Knowledge of fundamental sciences essential—Essentials for those who treat the sick—The universal requirement—A square deal for all.

When the report for 1916-1918 was written, the medical schools were in process of being converted under Government control into units of the Students' Army Training Corps. Under the man-power bill the entire Nation was placed on a war basis, and its entire energy was consecrated to the winning of the war. This required that all able-bodied men between the ages of 18 and 45 be enlisted in the Army and Navy. Colleges and universities, including the medical schools, became centers for the training of officers for the new armies. In the instruction, courses of military value were given first consideration, the curricula being prescribed by the War Department, those in the medical schools differing less from the prewar schedule than in other collegiate departments. The members of the medical school faculties who were considered as "essential teachers" were kept at their duty and not granted commissions as medical officers. These teachers, in fact, were actually in the service of the United States. This restriction was in effect a recognition of their skill as "essential teachers," and, had the war continued, some suitable evidence of such recognition would have been devised.

On August 28, 1918, when the change in the status of colleges and medical schools was announced, the medical schools were ready to open the fall sessions on their usual prewar schedule. The changes ordered made necessary an extensive revision of these schedules. These revisions and the fact that the fall session was so near, if it had not already begun, made some confusion inevitable. The time-consuming routine of changing the students from a civilian to a military status—questionnaires, physical examinations, inductions, waiting in line, etc.—took up most of the student's time which otherwise would have been spent in study. The placing of six hours per

week of military training into an already overcrowded schedule added to the confusion, which in many instances was further increased by a temporary conflict between the military officers who were supreme and the educational officers. For example, drill hours were frequently placed at the time set for laboratory or clinical courses. Orders through military channels were finally sent to commanding officers in medical schools where such difficulties occurred to make the hours for military drill conform with the teaching schedules. Other difficulties, such as the assignment of students to guard duty, to raking leaves, to kitchen-police duties and the like, were also dealt with by orders from the War Department. The change from quiet rooms at their homes or in other private dwellings to barracks where no provision was made for study made it difficult for the students to do effective work. To cap the climax came the epidemic of influenza, which required the closing for a few weeks of many of the schools. During the first eight weeks that elapsed after the opening of the fall session, therefore, very little effective teaching had been done in the medical schools where military training had been established. Some of the colleges extended their sessions for a few weeks into the following summer to make up the time lost.

In spite of the handicaps, however, deans and teachers of medical colleges were cooperating to the utmost with the War Department toward the chief end in view—that of winning the war. All recognized the wisdom of establishing the 'Students' Army Training Corps as the best means of conserving the supply of medical officers if the war should be long continued. All recognized that a certain amount of confusion was inevitable at the beginning, but that, in time, order and efficiency would prevail, both from the military and educational standpoints. Happily, the war was not prolonged, the signing of the armistice made unnecessary the further sacrifice of time by students and faculties, and the prewar status in medical schools was restored by the War Department as rapidly as possible.

STATUS OF MEDICAL EDUCATION IN 1917.

As shown in previous reports, medical education had been undergoing an extensive reorganization during the 15 years prior to the time when the United States entered the World War. By 1917, in fact, the majority of medical schools were operating under higher entrance standards and possessed more abundant laboratory and hospital facilities, so that for several years the majority of graduates had had the benefit of these advantages. At no previous time had the country been so well supplied with physicians who had received a training in accordance with the latest knowledge of medi-

cine and under the most improved methods of instruction. That further improvements were needed, of course, was well recognized, but these needs were emphasized and the more important were clearly indicated by the experiences of medical officers during the war.

NEEDS IN MEDICINE AS REVEALED BY THE WAR.

In no previous war had so large a proportion of the world's population become involved, and in no previous war was there so great a demand for those possessing the highest knowledge and skill in every line of human interest and endeavor. In no previous war had such vast armies been called into action, or such large numbers of physicians been required. Because of the many and varied measures used in modern warfare also, there was an unprecedented demand for physicians who were skilled along the lines of every narrow specialty. That the supply of such specialists was inadequate to meet the demand was not surprising. Those who are familiar with the great improvements in medical education during the period of 1904 to 1917 will readily appreciate how much more serious would have been the deficiency of qualified physicians had not that campaign for improvement been made.

As a result of the war, the medical schools resumed their prewar status with a much clearer vision of the improvements needed in medical education, and promptly took steps to meet those needs. Perhaps the most important need was of a better training in physical and clinical diagnosis, which, in turn, required a closer contact of the student with the patient, so he could gain a larger experience in writing histories and in making physical examinations. Toward this end an overabundance of clinical lectures and large amphitheater clinics in the medical schools have given way to an increased number of small-group bedside clinics; to clinical clerkships in which students under supervision are placed in charge of patients; and to clinical conferences where students and teachers discuss interesting cases or unusual conditions found.

Another need was for a larger knowledge by physicians generally of public health and hygiene. This required that more hours be devoted to this subject in the undergraduate curriculum and that larger facilities be provided for graduate instruction. A third great need was of larger provision for the training of physicians in all the various specialties of medicine and the establishing of a standard minimum course of graduate training leading to each of these specialties.

RECENT PROGRESS IN MEDICAL EDUCATION.

In many ways the progress in medical education, which has been so marked since 1904, has been continued during 1918 to 1920. The

excessive number of medical schools existing in 1904 has been brought more nearly to a normal supply by the closing of five more of the medical schools—mainly those of low grade. In 1919 the College of Physicians and Surgeons of San Francisco was discontinued; the College of Homeopathic Medicine of the State University of Iowa was abolished by the Iowa Legislature; and two other medical schools were suspended, these being the Lincoln Medical College, Eclectic, Lincoln Nebr., and the Leonard Medical College, the medical department of Shaw University, an institution for Negro students at Raleigh, N. C. In 1920 the College of Physicians and Surgeons of Los Angeles, the medical department of the University of Southern California, was abolished by the trustees. The medical schools of the Universities of Arkansas and Alabama have discontinued the teaching of the clinical branches, so as to concentrate their efforts on an improved teaching of the preclinical sciences. The latter has moved its medical school from Mobile to Tuscaloosa, where it is being developed on the campus of the university. The University of Wisconsin has secured a legislative enactment under which in the next two years it will provide a complete four-year course, including instruction in the clinical branches. The University of Rochester, N. Y., has received endowment funds of \$10,000,000—\$5,000,000 each from Mr. George Eastman and from the General Education Board for the founding of new schools of medicine and dentistry.

It is probable that the number of medical schools will be further reduced by the closing of several others of low grade. The total numbers of students and graduates, however, are increasing, and, judging from the number of students enrolled in premedical classes, will continue to increase for at least several years. The increases are now more marked in the highest grade (class A) medical schools.

There are 85 medical schools now existing, and of these 77 are requiring for admission two or more years of work in a college of liberal arts—a requirement which places medical education in America on a par with that in the world's other leading nations.

A brief contrast of the statistics in 1920 with those in 1904 will be of special interest. In 1919-20, of the 14,088 medical students enrolled, 13,408 (95.2 per cent) were in colleges requiring for admission two or more years of collegiate work. In 1920, of the 3,047 graduates, 2,842 (93.3 per cent) possessed the higher preliminary qualifications. In 1904 only 2.5 per cent of all medical schools required these higher qualifications for admission, and only 6.2 per cent of all students and 6.4 per cent of all graduates held such qualifications. (See Table 1.)

TABLE 1.—*Smaller quantity but better quality.*

Entrance re- quirements.	Colleges.				Students.				Graduates.			
	1904		1920		1904		1920		1904		1920	
	Num- ber.	Per cent.	Num- ber.	Per cent.	Num- ber.	Per cent.	Num- ber.	Per cent.	Num- ber.	Per cent.	Num- ber.	Per cent.
Four years of high school or less.....	158	97.5	8	9.4	26,391	93.8	680	4.8	5,378	93.6	205	6.7
Two years of college work.	4	2.5	77	90.6	1,751	6.2	13,408	95.2	369	6.4	2,842	93.3
Total.....	162	.....	85	.....	28,142	.....	14,088	.....	5,747	.....	3,047	.....

The totals of medical colleges, students, and graduates have been reduced by about 50 per cent since 1904, but it is noteworthy that the number of higher standard schools is 19 times larger than before, and the numbers of better qualified students and graduates are nearly eight times larger. The totals at the present time conform more nearly to the normal supply for this country.

MEDICAL TEACHERS.

Twenty or twenty-five years ago medical faculties were made up, with a few rare exceptions, of practicing physicians who appeared at the college only at the hours assigned to them for lectures or clinics. Teaching positions in the clinical branches were eagerly sought for and frequently held a high financial value. Chairs in the laboratory or preclinical branches also were acceptable, but chiefly as stepping stones to appointments in the clinical departments. With the extension of medical knowledge, however, the need of teachers who should devote all their time to teaching in the medical school became apparent, especially in the fundamental medical sciences, so that at the present time medical schools have on the average about 20 such teachers. The numbers naturally vary with the financial ability of the medical school to employ them. In those having limited finances, there may be only from three to eight such teachers, aided only by a few student assistants, while in the more generously financed medical schools each preclinical department has a complete staff, including all ranks from professors to demonstrators and assistants, the total reaching as high as 80 or more.

In the last 15 years there has been a gradually increasing number of all-time teachers in the clinical departments also, these being mainly assistants, instructors, and occasionally assistant professors. It was in the clinical departments, however, where teaching positions attracted those practitioners who at the same time were good teach-

ers, and it was not difficult to secure efficient clinical staffs at little or no financial outlay. With the rapidly improving financial status of medical schools in recent years, however, there has been an increasing tendency to limit the practice of the clinical teachers or to engage all their time for such work. For many years several of the prominent medical schools have limited the practice of their professors of medicine and surgery to consultations, to practice in a nearby hospital, to assigning to them a certain number of hospital beds, or by other methods of limitation. During the last few years, also, under grants of money from the Rockefeller General Education Board and the Carnegie Foundation for the Advancement of Teaching, it has been stipulated that the chairs of medicine, surgery, and pediatrics should be filled by salaried physicians, who shall receive no fees for private practice and whose sole interests shall be in medical teaching. Four medical schools are now definitely on that basis and two others are now making provision for such teachers.

As in other departments of education, there is at present a serious shortage of teachers for the full-time positions in medical schools. This is especially true of those who have had a complete medical training, so that many of the teaching positions in the preclinical branches are filled by graduates in the arts and sciences who have not studied medicine. Other things being equal, the former are to be preferred; in fact, are necessary if the much-needed closer relations are to be established between the preclinical and the clinical departments. It is hoped that better salaries or other means may be provided by which a larger number of teachers who have had a medical training may be attracted to teaching positions.

With the development of improved methods of clinical teaching there is a growing need of full-time teachers in the clinical departments also. Some of these would in time develop the skill and reputation which would make them eligible later to occupy the full-time professorships in medicine, surgery, and pediatrics which are becoming more and more available.

LIMITATION OF ENROLLMENTS.

Sixteen of the better medical schools have limited their enrollments to the number which they judge can be taught satisfactorily and are turning away each year many who are qualified to enter. Other medical schools are contemplating similar action. This, coupled with the reports of increased enrollment of premedical students, has caused some anxiety lest in the early future the medical schools will be unable to take care of all the well-qualified students who may wish to study medicine. An investigation, however (see Table 2) shows that the 68 highest grade (class A) medical schools can enroll without over-

crowding 15,430 medical students, or about 1,500 more than are enrolled in the 85 medical schools now existing in the United States.

TABLE 2.—*Capacity of medical schools under limited enrollments.*

Medical colleges.	Number colleges.	Total enrollment.					Average enrollment per college.
		First year.	Second year.	Third year.	Fourth year.	All four years.	
Enrollments limited.....	16	1,136	1,121	1,151	1,151	4,559	285
Report highest capacity with efficiency:							
Four-year colleges.....	31	2,222	2,109	2,063	2,056	8,450	273
Two-year colleges.....	8	307	304	.....	.....	611	76
Estimated highest capacity with efficiency:							
Four-year colleges.....	10	430	430	410	410	1,680	168
Two-year colleges.....	8	65	65	.....	.....	130	43
Totals, class A colleges....	68	4,160	4,029	3,624	3,617	15,430	227

By the employment of more teachers, by the enlargement of their laboratories, and by the completion of the new college buildings which have been planned, or are now in course of construction, it will be possible, if necessary, to handle efficiently as many as 17,000 or 18,000 students. It appears, therefore, that the medical schools now existing are fully adequate to meet the needs for several years to come.

CONTINUOUS SESSIONS IN MEDICAL SCHOOLS.

Much discussion has been given in educational circles to the reorganization now under way of the grammar school and high school curricula whereby two years of the student's time is being saved. Another entire year of time is being saved in the medical course itself, in medical schools which have adopted a continuous session. Two methods have thus far been devised. One is the "quarter system," by which the calendar year is divided into four terms of three months each, successful completion of the work of any three quarters to count as a college year. The second plan is to divide the year into three terms of four months each, the work of any two terms to count as one college year.

The continuous session permits the student who is physically and mentally able to do so to continue at his medical studies the year around. The "quarter system" provides a week's vacation between the fall and winter quarters, another week between the winter and spring quarters and (as worked out at the University of Chicago) three or four weeks' vacation between the summer and fall quarters. This is an adequate vacation time for the majority of students and would save much time now wasted in the present over-long three months' vacation period.

The continuous session would enable each medical school to teach larger numbers of students; it would also keep an expensive teaching plant in continuous and, therefore, larger service; students who may for good reason have failed to matriculate at the beginning of each session would no longer be required to wait an entire year, but could begin during the following quarter, and students having to take make-up courses could also clear them up during the summer session.

HOSPITAL INTERNSHIPS.

Another important means of perfecting the training of future physicians is to require an internship in a hospital as an essential for the degree of doctor of medicine, or for the license to practice, or both. The internship is at present required for the degree by ten medical schools, and for the license—it so happens, also—by ten State licensing boards. In earlier years such a requirement would have been a hardship, since there were not enough hospitals using interns to provide places for all graduates in medicine. The unprecedented trend toward hospital construction of the last few years, however, has caused the pendulum to swing the other way. Now the hospitals are seeking many more interns than the medical schools could supply, even if the output of medical graduates should be doubled or trebled—a greater quantity than the ordinary needs of medical practice would warrant. Instead of recent graduates as interns, the hospital will need to employ one or more resident physicians to serve for a series of years.

NO DEARTH OF PHYSICIANS.

The greatly increased demand for interns does not mean that there is a shortage of physicians. Nor is a shortage indicated in the fact that many of the rural districts are not supplied with physicians. There is, at the present time, 1 physician to every 720 people in the United States, or twice as many as are found in Great Britain, which has the next largest supply (1 to 1,500, just before the war). The demand for interns by hospitals is due, first, to the rapidly increasing number of hospitals, and second, to the improved educational qualifications of recent graduates in medicine due to the higher admission requirements of medical schools during the last several years and to the greatly improved methods of medical instruction. The scarcity of physicians in rural districts is due to economic conditions—to the fact that physicians can not make a living in those districts; that a physician does not have the advantages either for his family or for his professional work that he finds in the near-by city. The needs of rural districts for physicians

will be offset by the telephone, the automobile, improved roads, and interurban cars, by which patients can more readily get to the physician, or the physician to the patient, than heretofore. Plans are now being contemplated for the erection of community hospitals in each county, which will not only provide physicians with the conveniences for modern diagnosis and treatment not usually found in country districts, but also insure for the patient the benefit of these latest improved methods. Meanwhile, by providing the rural districts with hospitals, better schools, and other means of modern culture and living, the present rapid movement of the population from the country to the city may be checked.

GRADUATE COURSES FOR THE TRAINING OF SPECIALISTS.

The tremendous increase in medical knowledge since the perfecting of the microscope and the discovery of bacteria¹ has led physicians more and more to limit their practice to certain narrow fields of medicine, such as surgery; internal medicine; diseases of the eye; diseases of the ear, nose and throat; diseases of children, etc. By thus limiting his practice the physician is able to develop greater skill in the diagnosis and treatment of the diseases coming within his specialty. The great demand during the war for those having special skill along various lines has emphasized the need of encouraging specialization. It also has pointed the need of methods by which the physician who has taken special preparation to properly qualify himself as a specialist may be differentiated from one who, although professing to be a specialist, has obtained neither the knowledge nor the skill required in the specialty. To provide these methods, 15 special committees under the auspices of the American Medical Association are now studying the needs of the various specialties in order to prepare suggestive minimum courses of instruction by which graduates in medicine may qualify themselves in the various specialties. - Some satisfactory method may be established, possibly by the granting of a certificate, by which proper recognition may be given to those who are found competent to practice as specialists. This will enable the public to ascertain who are properly qualified to announce themselves as specialists in medicine, surgery, pediatrics, etc.

GRADUATE COURSES FOR PHYSICIANS.

The establishing of definite courses of training in the various specialties will, it is hoped, lead to the development of courses of clinical instruction in the various large hospitals of the country in

¹ See chapter on medical education in the report for 1914.

which the material for graduate medical teaching is at present unorganized and unused. The improvements in the undergraduate medical schools brought about during the last 15 or 20 years have insured the turning out of better qualified physicians than formerly. There is, however, a special need of courses by which physicians who graduated under less favorable conditions may be made familiar with the latest improved methods of diagnosis and treatment and by which recent graduates may secure special skill along certain limited lines. The development of facilities for graduate instruction will result in larger numbers of thoroughly trained physicians, and the sick and injured will be greatly benefited thereby. The public generally will be benefited also by the greater knowledge of sanitary measures and skill in health preservation.

BETTER LEGAL CONTROL OF THE HEALING ART.

With the great improvements made during the last 15 or 20 years, medical education in the United States is now equal to that in any civilized nation. Medical practice laws, however, have not kept pace with that progress, and as compared with other civilized countries the public in the United States is not nearly so well safeguarded against ignorance and incompetence on the part of those who practice the healing art. A practice act in each State should provide that before anyone is legally authorized to attempt to diagnose diseases or to treat the sick he shall have obtained educational qualifications equal to those furnished by the better medical schools. Such a law in each State should be placed for its enforcement in charge of a single board of competent educators, and liberal funds should be provided for carrying out its provisions. Unfortunately, in this country—and only in this country—a number of so-called “schools” of healing, having specially coined but meaningless titles, have been established in recent years in each of which a certain method of treatment has been advocated as a panacea for the ailments to which human kind is subject. Practitioners of these “schools” are clamoring for legal permission to practice under lower educational requirements than those required of physicians. After a prolonged consideration of this problem the United States Supreme Court decided unanimously² that such practitioners, like physicians, must begin by a diagnosis and that “for a general practice science is needed.” Other decisions have been rendered showing that the practice of these various schools is in fact only a part of the field covered by the practice of medicine, and that the safety of the public requires a grounding in the fundamental medical sciences.

² Collins v. State of Texas (U. S., 1912), 32 S. C. Rept. 286.

THOUSANDS OF REMEDIAL AGENTS.

Many thousands of remedial agents and procedures have been found of value in the treatment of human disorders, the use of any or all of which are included under the general term, "the practice of medicine." Many patients require surgical treatment, such as those having wounds in which arteries are severed, or injuries in which bones are broken, or those suffering from malignant or obstructive tumors, etc. In such cases it would be dangerous or fatal to omit the surgery and to depend alone on manipulation of the spine, on prayer, or on giving only a medicinal substance. Patients with diphtheria must be isolated to prevent the spread of the malady, antitoxin must be promptly administered, local antiseptics applied, and other routine forms of treatment followed. To omit the antitoxin and use any one form of treatment, such as massage, would be disastrous. Failure to recognize the disease as diphtheria would endanger the entire community from the probable spread of the epidemic. Again, patients who have taken poisons, whether accidentally or not, require the prompt use of antidotes, some of which are powerful drugs. Here again, to substitute some other form of treatment, such as massage, suggestion, prayer, manual manipulation, or rubbing of the spine, would be futile, and the patient would simply die from neglect. To know what treatment to apply and to avoid dangerous errors, a scientific training is essential.

KNOWLEDGE OF FUNDAMENTAL SCIENCES ESSENTIAL.

The different methods of treating diseases, taken singly or in groups, are comparable with the various instruments in an orchestra. Before anyone is competent to play in an orchestra—whether it be on the violin, the cornet, the slide trombone, or the bass drum—he must first have received a thorough training in the fundamentals of music. This is necessary so that he may know not only *when to play* but also—just as important—when he *should not play*. In fact, a note from any instrument in the wrong place is usually more disastrous than if the player fails to respond when he should. So in the practice of the healing art. Everyone who treats human diseases and injuries by any special method or system of treatment should have a thorough training in the fundamental medical sciences so that he may know, not only *when to use* the particular method he is specializing in but also—just as important—when that particular method *should not be used*. Here again the use of a wrong remedial agent in the treatment of a patient may be more disastrous than if such treatment is not used at the time the indications call for it. The omission of the right treatment may indeed have

serious results; a wrong treatment may result in the death of the patient or seriously complicate his trouble. To insure efficient care of the sick, therefore, a scientific education is required.

ESSENTIALS FOR THOSE WHO TREAT THE SICK.

From the foregoing it will be seen that the following principles should apply equally to all who are to treat people who are sick or injured, no matter whether he be a physician, an osteopath, a chiropractor, a Christian scientist, or one who is to use intelligently any special method or system of healing:

(1) He needs to have a knowledge of the living human body and its many complex normal structures and functions in order to clearly recognize abnormal conditions, diseases, and their causes.

(2) He needs a training in dispensaries and hospitals, where he can study patients suffering from all the more common diseases, so that he may be able to recognize the disease or injury he is attempting to treat; otherwise his treatment will be unscientific, dangerous guesswork, more likely to do harm than good. This training is needed no matter whether medicines are employed or not and no matter what system or method of treatment may be used.

(3) He needs to be educated in regard to the many and varied forms of remedial agents and procedures which are of generally recognized value, so he may apply the treatment most helpful to each particular patient. That which will be of benefit in one disease may have serious or fatal results in another. In emergency cases an early recognition of the conditions existing is of vital importance, since failure to promptly apply the right treatment may result in the death of the patient.

THE UNIVERSAL REQUIREMENT.

The following is the minimum standard of education now deemed essential in all civilized countries for practitioners of the healing art:

(a) Completion of a secondary school course equal to the four-year course in the better high schools, and, in addition,

(b) Two years of work in a college of liberal arts, including courses in physics, chemistry, and biology.

(c) A medical training under expert teachers, consisting of a four-year course in a well-equipped medical college, including two years in the laboratories of anatomy, physiology, bacteriology, hygiene, pathology, pharmacology, and physiological chemistry, and two years devoted to the study of patients with all classes of diseases in the dispensary and at the patient's bedside in a hospital.

(d) The practical experience obtained in a fifth year spent as an intern (resident physician) in a good hospital.

A SQUARE DEAL FOR ALL.

The minimum training outlined in paragraphs (a), (b), and (c) is now required *of physicians* in 33 States in this country, while that outlined in paragraphs (a) and (c) is required *of physicians* in all States. If physicians are required to have that essential training, it does not seem an American "square deal" that any others who are to treat the sick should be licensed with inferior qualifications. Granted that there is some good in the methods of healing employed by others than physicians, that good will in no way be diminished if those employing such methods are first required to obtain a thorough training in the fundamental medicinal sciences.

One educational standard should be established, therefore, for all practitioners of the healing art, regardless of the system or method of treatment advocated, and no one should be given the legal right to treat the sick unless he measures up to that standard. Everyone who wishes to treat the sick should be required to show that he possesses the education as outlined, then he should be licensed as a physician and allowed to use any method of treatment which his educated common sense would indicate.



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SPECIAL FEATURES IN THE EDUCATION OF THE BLIND DURING THE BIENNIUM 1918-1920

By

EDWARD E. ALLEN

Director of the Perkins Institution and Massachusetts School for the Blind
Watertown, Mass.

[Advance Sheets from the Biennial Survey of Education
in the United States, 1918-1920]



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SPECIAL FEATURES IN THE EDUCATION OF THE BLIND DURING THE BIENNIUM 1918-1920.

By EDWARD E. ALLEN,

Director of the Perkins Institution and Massachusetts School for the Blind, Watertown, Mass.

CONTENTS.—New interest in the blind—The war blinded—Uniform type and the increased subsidy for printing in it—Libraries for the blind—Books about the blind—Statistics of attendance—Day schools for blind and for semisighted children—Mental measurement and research—The Harvard course in the education of the blind—Bibliography.

The most notable events affecting the status of the blind within this biennium are: The arousing of the attention of society to the existence and needs of the handicapped; the labor shortage, which created many and new openings for their employment; and the Federal law providing, under certain conditions, for the rehabilitation of people injured in industry or otherwise. Other arresting events in the special field of the blind are: The final adoption of Braille as the uniform type to be used in their schools, and along with this the fivefold increase in the Government subsidy to the American Printing House for the Blind; the successful growth of the new movement for teaching certain partially seeing children by themselves, which is one of the outcomes of continued labors for preventing blindness; the widening interest in psychologic research among school pupils, destined to lead to their reclassification and a modification of curricula; and finally the successful beginning of a college course of lectures and demonstrations for teachers and workers among the blind and the semisighted.

NEW INTEREST IN THE BLIND.

Within the academic year 1917-18 unusual numbers of the older pupils, who would ordinarily have finished their courses, left school or failed to return to it because they had obtained work and preferred what is called gainful occupation to more schooling. Indeed, the recent labor shortage has given the blind the most encouraging push they have ever known, viz: The feeling that they were actually

needed in the workaday world. Where there were placement workers these have been so busy filling positions that the number of fit candidates was exhausted; in other words, there were more places open to the blind than trained blind people to fill them. Many secured jobs for themselves, chiefly at various sorts of handwork in factories. One factory in particular, that of the great Crocker-Wheeler Electric Co., at Ampere, N. J., gave preferential employment to blind men and women at "taping," or insulating parts of motors, etc., thus creating a sort of department for them. This department was handled in a businesslike manner, actual earnings were paid on the basis of piecework, and such satisfactory results were reported that the company proposes to continue employing these hands so long as conditions permit. It was not so long ago that most blind girls, on graduating from a high-school course, could look forward only to being useful at home. Latterly numbers of such girls, after taking a little intensive training at a business school, have been placed as typists in offices using the dictaphone. These girls have a better background in English than most candidate typists, and, being anxious to make good, have usually done so. There are very many processes which blind or other handicapped people can master, and they naturally become quite dependable.

The feeling that careers of independence are opening for the trained blind has reacted upon their schools and infused a new spirit into the classroom. Typewriting, for example, is now taught from a different viewpoint. And the school curricula as a whole are destined to be overhauled and modified under the advice and scrutiny of efficiency committees. At least one school has now added to its staff a vocational guide. Obviously only the less capable and the less energetic of the blind should have recourse for a living to such humble handicrafts as chair caning; and, similarly, only the no longer youthful or resourceful should go to the working home or the special workshop. A veteran educator of the blind has written: "The ability of the blind man to get on successfully in the world will depend even more upon his head than his hand, and he is far less handicapped in the development of the one than in the other." When the general employing public finds this out the blind will rise to the occasion, as many have recently done, and their whole social status will be lifted, to their great happiness and the benefit of society at large.

Already, indeed, the public discovery and recognition of the handicapped as a consequence of the war has been wonderful. The publicity efforts of the Federal Board for Vocational Education and the American Red Cross have been potent aids. The blind have been specially benefited. Knowing that many of our soldier boys would return blinded, a large number of women learned Braille,

the tangible reading and writing of the blind, and otherwise prepared themselves for understanding and relieving the condition of blindness. Their laboratory was at hand among the civil blind, and they were astonished to discover how many of these there were in adulthood and how neglectful society had been in their behalf. The schools and libraries, the public commissions, and the private associations for the blind pointed the way. They held classes, gave practical demonstrations, and taught by correspondence. Young women became volunteer social workers, some offering the use of their cars and of themselves as chauffeuses, driving throughout a whole season or until the work set for them was done. College girls read regularly to blind students and persisted as they had never been known to do before. But most have been continuously helpful in Brailleing out stories for the blind to read. Not a few hitherto idle people have found their vocation among the blind. In these and other ways a new and improved mutual understanding exists to-day between the blind and the public, which it is hoped can be measurably maintained.

Heretofore the towns, cities, and States alone have provided such public aid as was given at all to their citizens whose producing capacity had been reduced in any way. Handicapped children have been given school training, and certain of the adult, as the blind, have had employment provided in subsidized shops. Though the public recognized a duty in this, it was a charitable duty. It was a kindness to the individual. But now that the Federal Government, by reason of the Fess-Kenyon Act, which recently became law, will lend aid as an economic duty to the several States which themselves undertake rehabilitation of persons injured in processes of industry or otherwise, and that this makes it possible to provide training and placement after training for those who are blind as a result of disease, one can be hopeful "that this is but the beginning of a vast and far-reaching work of reclaiming and making independent citizens of those who are blinded in the years of manhood and womanhood."

THE WAR BLINDED.

Many workers among the blind optimistically believed that the Government rehabilitation of the war blinded and their placement in industry would so swell the ranks of efficient blind men seen daily going about their work that this fact alone was destined to raise not a little the social status of all the blind. The plans for their rehabilitation were acknowledged to be the wisest and best the world had ever conceived. A generous pension and insurance was to place the men beyond all financial worry; every conceivable means for their encouragement and training was to be offered them, and they were to be urged to fit themselves to become again and remain eco-

nomically useful citizens, not only because so to do was for the good of society, but even more because the feeling of being useful would make them happier and better. And, indeed, the Government showed rare wisdom in this. It had accepted the dictum of Helen Keller that "the heaviest burden on the blind is not blindness, but idleness." Who can say that the statement of this remarkable woman, so widely read as it has been since 1907, when it was published, did not so popularize the idea as to help bring about the national policy for reclaiming all its war broken, including the blinded?

Educators of the blind, then, foresaw great good as likely to come to their people out of the vast evil of the war. And they, like society in general, were eager and anxious to aid the soldier boys who should return so grievously changed. Many of them would have thrown their schools open to them, had this been deemed best. But they themselves did not so deem it. They agreed rather with the authorities at Washington that it would be wisest to bring these young fellows together under inspirational environment until they should find themselves again or be led through occupational activities into the state of mind without which attempts at training would be useless. They advised that the period of mental convalescence would be soonest over if these invalids were kept away from their homes and grouped by themselves for a period where no one would feel himself an exception needing special coddling and where every influence both of occupational therapeutics and preliminary training should be brought to bear until each individual could be sent forth for definite vocational training where this could best be found. And they advised that, after training, placement and follow-up should be provided these wards of the Nation.

This plan, which was for the most part the one being successfully followed in England for the Government by the National Institute for the Blind, our Government made every preparation to carry out for itself. It accepted the use of a private estate at Baltimore, added temporary school and recreational buildings, arranged for ample leadership, and in April, 1918, when the first "cases" arrived, started up its splendid machinery. Indeed, the intentions of the Federal Board for Vocational Education, assisted by the Red Cross, were generous in the extreme.

These bodies could not do enough. The expenditure of money for the rehabilitation of these men who had given their sight for their country was to be more than ample—even lavish. Great Britain was to be surpassed. Naturally and instinctively everybody tried to help. But the project began in disharmony, and it was not until May, 1919, when the men were discharged from the Army and the American Red Cross undertook the full conduct of it for the Federal Board that harmony began to appear; and so general expectations, which

were oversanguine, have hardly been realized. Perhaps this was inevitable under the circumstances. However this may be, the whole new task, in which there was so much heart, proved complicated and difficult of execution. The plant was there but no single executive head having the background of experience and the support of public confidence and of the blinded men themselves. Then, the consciousness which these men had of having ample incomes for life in itself militated against personal effort; also the lack of previous education of most of the men and their harmful coddling by the sentimental public—these and other things, in a measure, have thwarted fond expectations. At least, this is the conviction of educators of the civilian blind, some of whom feel that, were the undertaking to be begun anew, they would be justified in offering to sacrifice for a time the interests of their own schools in order to help the Government start its delicate task. Possibly the result would have proved no more successful, and it might have been far less so. But could they have known how few men there would be for any one institution, if distributed among the 45 of the country, they could doubtless have arranged somehow to receive them.

The reasons they advised grouping them for a while in one place, as was done, are, in short, these: The existing schools and their discipline are adapted in every way, both in equipment and in staff, for the use and needs of children, not men. Now, men and children can not profitably be schooled together; hence either the schools would have to be divided in plan or be overturned to suit men. Either way would have been at a sacrifice of the children, who numbered in the school year 1918-19, 4,616, whereas all the serious eye cases resulting from the war—gunshot and gassing, weakness and disease—known to the Federal Board in December, 1920, are 308, hardly one-fifteenth as many. Doubtless the officials responsible for the proposed rehabilitation of the war blinded had other plans than to subject these men to the old-time blind-school methods; and in this matter they were doubtless justified enough. For, were they called upon to do their task over again, they would undoubtedly plan much as they did, but endeavor to carry the project out more happily. And educators of the civilian blind, some of whom gave leave of absence to members of their staff to further the cause, would now try to be even more helpful than they were able to be before; and they tried to be cooperative all along. The above remarks, made by one of them, are made in the kindest spirit, and are not to be taken so much as a criticism of the Government as an explanation of their own attitude in the matter and of their disappointment at the general results so far. As for the old-time methods of existing schools, it should be borne in mind, in the first place, that no school can be much superior to the public opinion of people supporting it, and that if the general

social and industrial status of the blind be lower than it might be, this is due in large part to public prejudice or a reluctance of employers to give the blind man a chance to prove his value as a producer. And it should be borne in mind, in the second place, that it is a fact that almost every new worker among the blind, who has vision and initiative, feels the call to discount what has hitherto been done in this field and to propose for immediate application fundamental changes which seem to him to promise better results.

UNIFORM TYPE AND THE INCREASED SUBSIDY FOR PRINTING IN IT.

The signal achievement of Valentin Haüy, the first teacher of the blind, was the devising of a means of reading with the finger. The education of the blind, then, was founded upon embossed books. With the opening of the pioneer schools for them in this country, in 1830-1833, embossed printing was begun and continued, as funds were available, until 1879, when Congress granted the American Printing House for the Blind, at Louisville, Ky., an annual subsidy of \$10,000. This house became at once the greatest producer of its kind in the world and continued to be such into the present century, when the numbers of pupils in our schools drawing upon this source of books had more than doubled; which fact, coupled with the increased cost of production, made the yearly output entirely inadequate. In this emergency several of the schools set up small printing presses of their own and assisted one another and the rest to a better supply. The State of New York and certain Bible societies have also splendidly supplemented book production. One endowed enterprise set about manufacturing writing appliances and table games for the blind and selling them at less than cost.

In 1919, Congress increased its grant to the American Printing House from \$10,000 to \$50,000, which sum has made possible the enlargement and improvement of the plant and the immediate increase in the number of books to each school. This fact is an achievement, indeed, and is one of the signs of recent progress in the education of the blind.

Dozens of embossed types for reading by the finger have been devised at one time and another within the past 136 years since the first practical one was hit upon in France. And much ingenuity, effort, and money have been put into them. All may be grouped into one of two classes—those composed of lines and those composed of points. In general, the line types, which came first, were imitations of characters that had survived as best adapted to reading by the eye. The point types, the characters of which are merely different arrangements and numbers of similar points or dots, represent arbitrary systems justified both as being more generally tangible

than the lines and particularly as being alone writable as well as readable by the blind themselves. And so the point systems have gradually driven out the line types with the exception of one of them, Moon's type, which is so large and coarse that anybody having the least patience can learn to read it with the finger. Its bulkiness is seen in this: A single copy of the Moon Bible fills 63 quarto volumes, costing in England, where the press for producing it is endowed, £8 13s. 10d. Nevertheless, great numbers of the old and infirm want this type, and most libraries for the blind among English-speaking people circulate more books in it than in any other. A single line type, then, has survived and is destined to stay. But Moon's type is not needed by the young blind at school or by the more courageous of the adult. The point system known as Braille, from the name of its maker, is now the survivor among three which have competed for supremacy. And it has won out for no other reason than that of uniformity; but this is ample reason. Hitherto the plates from which editions were reproduced might be in one or another of three systems—a highly wasteful business and one which compelled the would-be reader of everything embossed to learn them all.

People who promoted either one of the other two systems did so conscientiously, believing it a better tool than any other and therefore adding less to the handicap of blindness. However, the agreement upon original Braille has been practically unanimous, and since 1919 no new book in another system has been embossed here. It is called "Revised Braille Grade 1½" for this reason: Revised Braille as used among the British is printed, some in grade 1, which is full spelling, but chiefly in grade 2, which is highly contracted—that is, it employs so very many characters for arbitrary abbreviations, like *alw* for always, *bl* for blind, and arbitrary combinations of letters, like *to*, *for*, *ation*, *com*, *ed*, etc., some of which are not justified by their frequency; uses these without regard to syllabication, as *for-um*, or "correct usage," such as individuality of word, like "toeat," "togo" (which latter may stand either for the verb or the Japanese admiral), "intothe," all run together; avoids the use of all capital letters, as "john"; and, moreover, is so encumbered with arbitrary rules and regulations to prevent ambiguity and preserve some degree of uniformity that American blind schoolmen would not inflict it upon their pupils. As textbooks and printed literature should always be models of good use, they were unwilling to lay these before them or to allow them to disregard usages in their Braille writing that are intolerable in pencil or typewriting. So a grade between 1 and 2 was agreed on and termed grade 1½. It will be seen that the American grade 1½ is merely a simplified or

purified grade 2 and can be read, of course, by anyone who knows grade 2. Moreover, the many books already existing in grade 2 are not closed to any who wish to take the trouble to read them, and our circulating libraries have already imported considerable numbers from England.

The music notation for the blind is now the same everywhere, as are the mathematical and the chemical notations, wherever English is used; thus duplication of scores and tables may be avoided through international exchange. All this represents a signal achievement and advance and is what is meant when the adoption of a uniform type for the blind is heralded. Already, with the close of the year 1920, 208 different books have been published in the uniform type, and the schools have begun their introduction with their younger pupils. The older pupils will continue to utilize the other books until these are worn out and supplanted.

LIBRARIES FOR THE BLIND.

Most schools are glad to circulate their embossed books beyond their own pupils and do so in so far as they can. But the reading hunger of the outside blind who read is chiefly satisfied by circulating libraries located here and there throughout the country. The splendid "Books for Everybody" movement which arose during the war has persisted and now includes books for the blind. A drive has been made in their behalf, which has further attracted public attention to the needs of these people. Indeed, librarians have helped nobly. Some have induced authors to meet the cost of publishing in Braille a book or two. Others have organized clubs for writing out in Braille by hand short stories primarily for the blinded soldiers—the special librarian of the Library of Congress announcing that 24,287 pages have been thus contributed and fastened into books through her. A no less important duty of the librarians is bringing to the attention of their public the titles of all the new books that may be borrowed for the asking, and this publicity the librarians have also carried out as best they could. Truly the cause of the reading blind has marched.

BOOKS ABOUT THE BLIND.

Libraries and schools interested to do so have collected much literature on blindness and the blind, especially the war blinded, which has lately appeared in quantity, and also on the prevention of blindness, an enterprise that will always need generous support and should have it. Though there is considerable literature on the general subject, there has appeared no single comprehensive book on it in any language until 1919, when Macmillan issued "The

Blind," by Harry Best, Ph. D.—a work which may be truly called a labor of love and which every library that includes books on special education and sociology should have. An excellent Manual on Conservation of Vision Classes has been issued by the National Committee for the Prevention of Blindness, and a bulletin, explaining and describing these classes, by the Harvard University Press.

STATISTICS OF ATTENDANCE.

By far the largest number of blind and partly blind pupils receiving education in the United States, as elsewhere, attend the residential schools, commonly called institutions. We have 45 such schools, whose attendance in 1918-19 was 4,616. In the same academic year 989 attended day-school centers, of which there are now 71 in the public schools of 36 cities. The day-school movement, which began in Chicago in 1900, everywhere considered all its pupils as blind and taught them as such for over a decade, when in a few cities certain of the semiblind among them were segregated and taught as semisighted pupils; that is, chiefly through the eye instead of the finger. There being many more defective-eyesight children who have usable eyesight than who have not but must depend upon touch, it follows naturally that the classes for the former have grown apace, so that the above-given figures of attendance of blind children at day schools are misleading. There are really fewer blind children in such classes than were reported two years ago, but more semisighted. The movement for such segregation is scientifically correct and represents a great educational advance in the proper methods of reaching children suffering not from blindness but from seriously defective eyesight.

DAY SCHOOLS FOR BLIND AND FOR SEMISIGHTED CHILDREN.

The movement for "semisighted classes," brought from England in 1909, was unable to organize its first class in Boston until 1913, since when it has extended, especially in Massachusetts, Wisconsin, and Ohio, and in New York City. But it is to the wise and enthusiastic supervisor of the department for the blind of the Cleveland public schools that its recent spread is mainly due. He cleverly caused the State's responsibility for the education of its eye defectives, the blind and the semisighted alike, to be extended to the public-school system of given cities, and in this way he was able to elaborate a project which most city-supported systems have not yet been able to match. He obtained from friends the money with which to print his "clear type" books for the semisighted. His early providing of the books, which are in a 24-point heavy black type on unglazed buff paper, and which are on sale, has been an invaluable service to the whole cause. This supervisor, who is him-

self blind and a product both of an institution and a university, has been able through his State subsidy to elaborate according to his need his provision for both classes, the blind and those with defective eyesight, and to approach in thoroughness much that is done for their blind pupils by the residential schools and more than is done for their partially blind; and he has been able to avoid doing some things for both kinds which these institutions can not avoid doing. For both kinds he has lengthened his school day, added a Saturday morning session, introduced physical, musical, and manual training, some boy scout, girl campfire, and summer camp experience, and he has taught a little household economy every day at the noon lunch hour. He has also recently found it advisable to collect in two small families certain of the blind children in his public-school classes. Here he holds parents' meetings periodically. He also employs a special home-visiting teacher.

This so-called Cleveland plan is setting the pace for other communities to follow. The rock on which it is founded is State support rather than city or local support, which latter is hard to get in sufficiency and to keep getting, or than private enterprise, whose function is rather to initiate and justify public movements than to maintain them. The plan now also supplies vocational guidance, sends to high school those who should go there, offers vocational instruction, places the fit in employment and follows them up for two years after placement. This is more than most institutions do or can do for their pupils and ex-pupils. The advantages claimed for the day school over the residential are, first, that the former subjects the handicapped child from the beginning to direct competition with the unhandicapped and while doing so gives him the extra help needed, and, second, that it tends to preserve the integrity of the home. In general, however, the day-school movement ignores the other fact that, for the child who is blind, very many if not most of these homes furnish a poor and unstimulating environment, which fact even Cleveland has recognized, as is stated above. In theory the day school has much the most to support it, but so far it has been impracticable to attain all these fine things of the Cleveland plan except in Cleveland (even Cleveland has not the special equipment and study resources of a residential school); and these can not and will not be approached anywhere except in cities or large communities where there are enough such children to warrant it and where the machinery to carry on is set on a firm foundation alike of support and of intelligent and progressive enthusiasm.

The following quotation from the Harvard Bulletin in Education, above mentioned, is significant and will interest critics of public school curricula in general:

A study of the promotion records of 100 sight-saving class pupils in Cleveland shows a reduction of 85 per cent in the proportion of failures after the

work in the sight-saving classes is well begun, as compared with the proportion of failures of these pupils prior to entrance in the sight-saving classes. The proportion of failures among the sight-saving class pupils is 60 per cent less than the proportion of failures in the entire public-school system.

The classes for the partially sighted pupils are variously called myopic, optical, semisighted, sight-saving, and conservation of vision. The children, most of whom would injure their eyesight if required to attend the ordinary school, have here this precious tool guarded and conserved, while at the same time they acquire an education—both being blessings to them and to the communities in which they live.

MENTAL MEASUREMENT AND RESEARCH.

The movement for a better understanding of blind pupil material through psychological testing was started at the Perkins Institution in May, 1916, and was taken up in September, 1916, by the Pennsylvania Institution even more vigorously. Each of these schools now employs one or two trained psychologists, both of whom work under the direction of Dr. Samuel P. Hayes, professor of psychology at Mount Holyoke College, who is paid to give up one-fifth of his time to this special undertaking and who gives more than that. These testing psychologists have been sent around to six other schools, remaining away weeks at a time, and up to the present have tested 1,500 different pupils. The tests are both individual and group. They reveal mental capacity, make possible a comparison between the blind and the seeing in this, that, and the other subject, and show up methods of teaching. The committee on efficiency of the American Association of Instructors of the Blind, appointed in 1918, will continue to rely on Prof. Hayes for very material aid and suggestion.

THE HARVARD COURSE IN THE EDUCATION OF THE BLIND.

In the fall of 1920 the Graduate School of Education of Harvard University announced a half-year course in the education of the blind and the semisighted, and began its lectures and demonstrations on October 22 with a registration of 73 students, mostly teachers and social workers. The lecturers, who volunteered their services, are experts in their special fields in Massachusetts, New York, Pennsylvania, Maryland, Ohio, and Ontario. The scope of the course is general, treating of the history of the subject, the teaching of children and of adults, the prevention of blindness, the conduct of private and public agencies, the psychology of blindness, relief, etc. Greater Boston furnishes unusual resources for demonstrating and reading up in the subjects treated in the lectures.

The course, being the first of its kind anywhere, is an experimental one. It represents the kind of extension work this new school of education would be glad to do. A nominal charge was made to the students in order to help meet expenses, the chief of which were covered by the Massachusetts Association for Promoting the Interests of the Blind, which organization, and the division of the blind of the Massachusetts Board of Education, and the Perkins Institution are responsible to Harvard for the initiation and conduct of the course. The project is significant, tending as it does to give the work for the blind the standing and importance that it should have.

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DEPARTMENT OF THE INTERIOR
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BULLETIN, 1921, No. 17

EDUCATIONAL BOARDS AND FOUNDATIONS, 1918-20

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By

HENRY R. EVANS

EDITORIAL DIVISION, BUREAU OF EDUCATION

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[Advance sheets from the Biennial Survey of Education
1918-20]



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EDUCATIONAL BOARDS AND FOUNDATIONS.

By HENRY R. EVANS,

Editorial Division, Bureau of Education.

CONTENTS.—General Education Board—Rockefeller Foundation—Carnegie Foundation for the Advancement of Teaching—Phelps-Stokes Fund—John F. Slater Fund.

The activities of the educational boards and foundations of the United States from July 1, 1918, to June 30, 1920, were varied and interesting. A number of important studies and surveys were made that throw light on educational problems of the highest importance to the Nation and State, which are briefly set forth in the following compilation.

GENERAL EDUCATION BOARD.

The General Education Board, since its foundation in 1902, has appropriated the sum of \$15,048,704, toward the general endowment of colleges and universities, but this does not include appropriations to professional departments, such as medical departments and schools of education. The following is a statement of appropriations for the year ending June 30, 1919—For whites: Universities and colleges, \$1,825,000; colleges and schools, current expenses, \$20,000; medical schools, \$605,000; professors of secondary education, \$43,054.99; rural school agents, \$80,660; Lincoln School, \$115,000; consolidated rural schools, \$8,000. For Negroes: Colleges and schools, \$352,160; medical schools, \$157,500; rural school agents, \$76,080; summer schools, \$12,200; county training schools, \$61,290; home-makers' clubs, \$43,575; expenses of special students at summer schools, \$26,250; scholarships, \$3,000; Negro rural school fund, \$24,500; John F. Slater Fund, \$4,500; Association of Colleges for Negro Youths, \$500; critic teachers, \$6,000. Agricultural work: Maine agricultural demonstration work, \$36,200; New Hampshire agricultural demonstration work, \$26,000. Miscellaneous: General survey of educational conditions and needs in North Carolina, \$7,500; general survey of educational conditions and needs in Virginia, \$12,500; survey for preparation of mental measurements of school children, \$25,000; expenses rural school agents at Harvard summer

school, \$1,000; model county organization, \$8,400; conferences, \$4,485.66; National Committee on Mathematical Requirements, \$16,000. Total, \$3,601,355.65.

In addition there was appropriated from the income of the Anna T. Jeanes Fund for Negro rural schools, \$10,353.01; and from the income of the Laura S. Rockefeller Fund, for Spelman Seminary, \$28,000. During the year ending June 30, 1919, the board made appropriations aggregating \$1,175,000 toward a total of \$4,375,000 to be raised by the colleges and universities assisted. The institutions thus aided were as follows: Dakota Wesleyan University, Mitchell, S. Dak.; Drury College, Springfield, Mo.; Emory and Henry College, Emory, Va.; Jamestown College, Jamestown, N. Dak.; Salem College, Winston-Salem, N. C.; Tulane University, New Orleans, La.; Westminster College, Fulton, Mo.; West Virginia Wesleyan College, Buckhannon, W. Va.

The financial operations of the General Education Board for the year ending June 30, 1920, were as follows: The income for the year amounted to \$4,741,223.66. The income carried over from the preceding year, after adding sums refunded, amounted to \$9,996,875.85, making a total of \$14,738,099.51 available for disbursement.

Of this sum \$3,631,027.99 was disbursed, leaving a balance of \$11,107,071.52. The statement of appropriations for the year is as follows—For whites: Universities and colleges, \$17,039,307; medical schools, \$9,304,247; professors of secondary education, \$91,291; rural school agents, \$80,817; Lincoln School, \$497,201; State agents for secondary education, \$116,100. For Negroes: Colleges and schools, \$1,579,000; medical schools, \$257,500; rural school agents, \$71,837; summer schools, \$28,400; county training schools, \$160,000; expenses of special students at summer schools, \$15,000; Negro rural school fund, \$65,000; John F. Slater Fund, \$4,500; critic teachers, \$9,000. Miscellaneous: General survey of educational conditions and needs in North Carolina, \$4,000; increases in salaries of State agents, \$40,000; model county organization, \$7,400; conferences, \$4,546; national committee on mathematical requirements, \$25,000; vocational arts survey, \$60,000; division of educational relations, \$10,000; educational investigation and research, \$6,000. Total, \$29,476,146.

In addition to the foregoing the sum of \$9,475 was appropriated from the income of the Anna T. Jeanes Fund for Negro rural schools, making a combined total of \$29,485,621.

On January 1, 1920, the last installment of Mr. Rockefeller's gift from his special fund of approximately \$10,000,000 was transferred by the University of Chicago in trust to itself. All control of the board over this fund having ceased, it is now eliminated from the board's books.

In June, 1920, the trustees of the General Education Board and the Rockefeller Foundation announced gifts totaling \$20,261,900 for general education and development of medical schools. The foundation estimated that it would be necessary to increase endowment funds by two hundred million dollars in order to advance the salaries of college professors to a degree partially commensurate with the rising cost of living. Nearly 250 institutions applied for appropriations from the fund of \$50,000,000 which Mr. Rockefeller gave in December, 1919. In order to provide the required increase in endowment funds to insure living salaries for professors, the above-mentioned sum in the hands of the board will have to be augmented by funds from other sources in the ratio of two or three to one. This has to be kept in mind, the announcement says, in making appropriations which are contingent upon the raising of additional amounts. At a meeting of the trustees in June, 1920, appropriations were made to 98 colleges and universities. A total of \$12,851,666 was given on condition that the institutions raise \$30,613,334. This procedure would increase the endowments available for teachers' salaries by \$43,465,000. There remains nearly \$35,000,000 to be distributed.

The following appropriations to medical schools in the United States were made by the General Education Board, while those to institutions in Brussels and Halifax were voted by the Rockefeller Foundation:

Washington University Medical School, St. Louis, for endowment, \$1,250,000, for additional laboratory facilities and equipment, \$70,000; Yale Medical School, for endowment toward a total of \$3,000,000, \$1,000,000; Harvard Medical School, for improvement facilities in obstetrics, \$300,000; for the development of teaching in psychiatry, \$350,000; Johns Hopkins Medical School, for development of a new department of pathology, toward a total of \$600,000, \$400,000.

Medical research foundation of Elizabeth, Queen of the Belgians, Brussels: For general purposes of medical research, 1,000,000 francs. Other appropriations by the General Education Board were:

For cooperation with State universities and State departments of education in the Southern States in the field of secondary and rural education, \$287,350.

For Negro schools appropriations aggregating \$943,500 were made for the following objects: For general endowment, \$500,000; for current expenses and equipment, \$443,500.

Other Rockefeller Foundation appropriations were as follows: For the American Conference on Hospital Service, to establish and maintain library and service bureau, \$15,000; for the National Committee for Mental Hygiene, for surveys during 1920 of care and treatment of mental diseases and deficiencies, \$25,000.

ROCKEFELLER FOUNDATION.

During the year 1919 the Rockefeller Foundation participated in activities of public health and medical education in 39 different governmental areas. Yellow fever control was successfully extended in Ecuador, Nicaragua, Honduras, and Salvador. Public health progress through cooperative campaigns for the cure and prevention of hookworm disease was made in 13 Southern States of the American Union, in 7 of the States of Brazil, in 5 islands of the West Indies, in 5 countries of Central America, and in Ceylon, the Seychelles Islands, China, and Queensland. Demonstrations in the control of malaria were continued in Arkansas and Mississippi, and arrangements were made for extending the programme to 8 other Southern States. A systematic organization for combating tuberculosis in France was widened to include 21 departments. A modern medical school under foundation auspices opened its doors in Peking; premedical schools were aided in Changsha, Shanghai, and Nanking; medical courses were supported in Tsinanfu; and 17 hospitals in various parts of China were aided. Cooperation was continued in the maintenance of an institute of hygiene in Sao Paulo University in Brazil.

A school of hygiene and public health at Johns Hopkins University was entirely supported by foundation funds.

The foundation provided fellowships and scholarships for 85 persons who were in residence in universities in the United States. Fifty-seven came from China, 12 being Chinese doctors, 8 Chinese medical students, 7 Chinese nurses, 26 medical missionaries on furlough, and 4 prospective appointees to the board's teaching staff in China. Five doctors from Brazil, one from Salvador, and four from Czechoslovakia pursued courses in public health. Five American physicians held fellowships in the same field. The foundation also supported 13 research fellows in physics and chemistry, who were selected and supervised by a special committee of the National Research Council.

Officers of the foundation made special visits to the Far East, Europe, Canada, and South America in the interests of public health and medical studies. In order to provide expert direction for its growing work, the foundation established a division of medical education and appointed as director Dr. R. M. Pearce, professor of experimental medicine in the University of Pennsylvania Medical School. The sum of \$5,000,000 was set aside for use in Canada to promote medical education.

The income from invested funds of the foundation was approximately seven millions. The expenditures for 1919 were as follows: Public health, \$1,467,713; medical education and research, \$3,248,547; war work (final payments), \$2,772,847; miscellaneous, \$119,332; administration, \$151,916; total, \$7,760,355.

CARNEGIE FOUNDATION.

The labors of the Carnegie Foundation for the Advancement of Teaching for the year ending June 30, 1919, were devoted largely to the reorganization of its existing pension system and the inauguration of its new plan of insurance and annuities.

During the year, the trustees received for general purposes a total income of \$1,555,987.68—in addition to \$50,486.55 from the endowment of the division of educational inquiry—\$655,987.68 from the general endowment, and \$900,000 from the Carnegie Corporation of New York on account of its appropriations of \$200,000 a year for 5 years, \$600,000 a year for 10 years, and \$100,000 a year until the transfer of the final two million dollars of Mr. Carnegie's gift of March 31, 1908. There was also received from the corporation one and three quarter million dollars in November, 1918, and three quarters of a million in April, 1919, these payments completing the transfer of five million dollars voted by the corporation in November, 1917. The current expenditures were as follows: (a) General endowment—Retiring allowances and pensions in institutions on the associated list, \$718,082.25; retiring allowances and pensions granted to individuals, \$110,303.33; total retiring allowances, \$828,385.50. Expenses of administration, \$49,359.97; publication, \$10,888.62; total, \$888,634.17; (b) division of educational inquiry—General, \$4,824.85; study of legal education, \$8,685.11; study of training of teachers, \$16,058.08; study of engineering education, \$5,986.76; total, \$35,554.82.

The list of associated institutions was increased by the admission of Allegheny College, on February 7, 1919, and Vanderbilt University, on March 7, 1919. The fourteenth annual report of the president and treasurer of the foundation for 1919 contains a tribute to Mr. Carnegie, who died in August, 1919, and an elaborate review of the new pension scheme. During the year 1918-19, the trustees disbursed in retiring and widows' allowances more than \$800,000. But in that year the old plan of granting such allowances was definitely abandoned in favor of a scheme under which the teacher himself is called upon to contribute toward the provision for his own retirement.

The Carnegie Foundation came to the conclusion, as a result of 13 years' experience, that a "free pension" could not be a solution of the problem in a democratic country, but that the system must be contractual and rest upon the cooperation of the teacher and his college. This method, in the opinion of the trustees, is the only one that is "just, feasible, and permanent." To this end they organized a Teachers' Insurance and Annuity Association, in the control of which the teachers themselves will have real representation, and invited the

universities and colleges to adopt pension schemes based on joint contributions by the teacher and his institution and worked by means of policies issued by the new association. The trustees continue the system of free pensions for those who were in the service of associated institutions before a certain date, but for others will content themselves with the provision of disablement allowances and the guarantee of a certain rate of interest on policies issued by the association. Says the report:

The system of insurance policies and of old age annuities offered through the Teachers' Insurance and Annuity Association contains the fundamental principles suggested by the teachers themselves and approved by the commission which reported on this matter at the instance of the trustees of the Carnegie Foundation. The policies are contractual. They offer both insurance and annuities at lower rates than they can possibly be provided in purely commercial companies, and the association has announced a plan under which the policyholders will have a real representation in the control of the company, instead of the ostensible representation provided under what is known as mutualization.

The Teachers' Insurance and Annuity Association began the issuing of contracts in March, 1919. On the completion of the first six months of its operation it had written over \$750,000 of life insurance on medically selected lives, and had written annuity contracts which at maturity will amount to \$116,000 annually representing total expected payments in excess of \$1,000,000. The association employs no agents. These various contracts were written in 70 different universities and colleges. Before the end of the fiscal year, June 30, 1919, nineteen institutions had accepted the plans proposed by the Teachers' Insurance and Annuity Association for the provision of old-age annuities by the joint cooperation of the teacher and his college.

By January 15, 1920, 29 institutions had reported their adoption of the plan. In order to clear up many misapprehensions regarding the working of the new pension scheme, the foundation issued a pamphlet entitled "Misapprehensions Touching Life Insurance." The report, under the caption of "The Relation of the Old-Age Annuity to Salary," says:

The plan offered in the Teachers' Insurance and Annuity Association rests upon the only principles which can insure contractual security, the widest measure of freedom, and a cost determinable in advance. The colleges and universities that are participating in the contributory system of old-age annuities say to their teachers: If you elect to take out an annuity contract the college will cooperate with you by a similar contribution not to exceed 5 per cent of the salary and up to an agreed maximum. While the conditions of cooperation vary somewhat in different colleges and universities, they are in effect those just stated.

The foundation at the end of its fourteenth year had distributed \$7,000,000 in retiring allowances and pensions to 852 persons, 54 grants having been made during the year. There are now operative 347 retiring allowances and 183 widows' pensions, the allowances averaging \$1,943 and the pensions \$971.

Of the total expenditures \$5,600,000 went to the associated list of 73 institutions. The report contains a table showing this appropriation to each of these institutions during every year of the foundation's history. Harvard has received a total of \$556,000; Yale, \$491,000; Columbia, \$405,000; and Cornell, \$326,000. Amherst, Johns Hopkins, Massachusetts Institute of Technology, Princeton, Stevens Institute of Technology, Tulane University, the Universities of California, Michigan, Minnesota, Missouri, and Wisconsin have each received more than \$100,000, the average for the 11 institutions being \$130,000.

In 1920 the foundation issued a bulletin on "Justice and the Poor," which constituted the second in a series of studies in legal education and cognate matters. The report sets forth in non-technical language, first "the defects in the administration of the law which work in effect a denial of justice to the poor or to the ignorant; and secondly, the agencies, supplementary to the existing machinery, whose object is to remedy these defects." Delay, court costs and fees, and expense of counsel are enumerated as the important defects. Among the remedial agencies suggested to remedy these defects are the small claims court, the agencies for conciliation and arbitration, the domestic-relations court and administrative tribunals, and all officials authorized to deal promptly with disputants. The object of the study is to prove that the various agencies, if properly articulated with the existing system of the administration of justice, can be made to secure, so far as human means can do, the practical equality of all men before the law and to afford to all citizens, without regard to wealth or rank or race, the means for a prompt, inexpensive, and fair adjudication of their complaints.

In June, 1920, the foundation made its report on "The professional preparation of teachers for American public schools," which originated in an investigation of teacher-training facilities in Missouri, as requested by the governor of that State in 1914, but the study of the Missouri situation was found to involve a thoroughgoing examination of the whole teacher-training problem in the United States, and the findings in the Missouri survey are regarded by the foundation as furnishing a valuable index to conditions elsewhere. According to the report the teaching profession should be placed upon a collegiate footing and organized under a single competent direction as a part of the State university, parallel with medical, legal, engineering, and other similar divisions of higher education.

The authors of the report are: Dr. William S. Learned, of the Carnegie Foundation, who organized and directed the study; Prof. William C. Bagley, of Teachers' College, Columbia University; Dr.

Charles A. McMurry, of George Peabody College for Teachers; Prof. George D. Strayer, of Teachers' College, Columbia University; Prof. Walter F. Dearborn, of Harvard University; Dr. I. L. Kandel, of the Carnegie Foundation; and Homer W. Josselyn, of the University of Kansas.

PHELPS-STOKES FUND.

The Phelps-Stokes Fund was incorporated by the Legislature of the State of New York on May 10, 1911, under the provisions of the will of Miss Caroline Phelps-Stokes for the erection and improvement of tenement-house dwellings in New York City, and for the education of Negroes, both in Africa and the United States, North American Indians, and needy and deserving white students, through industrial schools, the founding of scholarships, and the erection or endowment of school buildings or chapels. In October, 1920, the corporation issued a report of 10 years' work of the Phelps-Stokes fund, 1910-1920, by Dr. Thomas Jesse Jones, in which is set forth in detail the plan, preparation, and object of the survey of Negro education in the United States, begun in 1913. This survey, a co-operative undertaking between the Phelps-Stokes Fund and the United States Bureau of Education, was the most elaborate study of Negro education in the United States ever attempted. The salaries and traveling expenses of the field and office force, amounting approximately to \$50,000, were paid by the Phelps-Stokes Fund; the bureau furnished office room and office equipment and paid all printing expenses. The report was printed in two quarto volumes of 423 and 724 pages.

The report, under the head of "Educational adaptations," describes the farm-demonstration movement, industrial education, rural education; secondary education, and the higher education of Negroes. Other activities of the fund in cooperation with educational and religious agencies are set forth. The work of the Phelps-Stokes Fund in founding fellowships is discussed. The trustees of the fund are making every possible effort to prepare the students in southern universities and colleges "to approach the Negro problem in a broad-minded scientific manner. To this end the trustees in 1911 endowed one fellowship in the University of Georgia, one in the University of Virginia, and a traveling foundation at Peabody Teachers' College. Each fellowship has an endowment of \$12,500, producing an income of about \$500. The income of the traveling foundation of \$10,000 is used to pay the expenses of professors who are making special study of the educational needs of the Negro race." The results of these appropriations have been most satisfactory.

JOHN F. SLATER FUND.

In the year 1919-20, the education committee of the John F. Slater Fund made the following appropriations: County training schools (\$500), including \$10,000 from donations of the Carnegie Corporation and \$12,000 from the Peabody Donation, \$44,000; summer schools and special work, \$1,500; city schools, including \$4,500 from the General Education Board, \$9,000; State normal schools, \$900; Tuskegee Normal and Industrial Institute, \$6,000; Hampton Institute, \$6,000; private secondary schools, \$9,900; colleges and universities, \$18,200; total, \$95,500.



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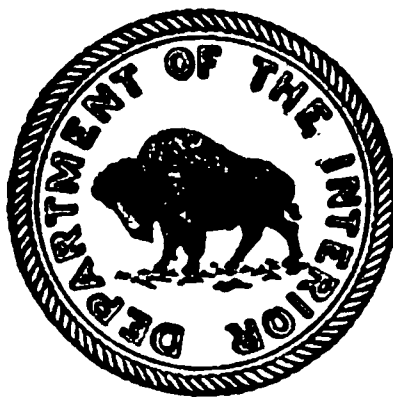
EDUCATION IN HOMEOPATHIC MEDICINE
DURING THE BIENNIUM 1918-1920

By

W. A. DEWEY, M. D.

Secretary of Council on Medical Education of the
American Institute of Homeopathy

[Advance sheets from Biennial Survey of Education
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EDUCATION IN HOMEOPATHIC MEDICINE DURING 1918-1920.

By W. A. DEWEY, M. D.,

Secretary of Council on Medical Education of the American Institute of Homeopathy.

Education in the homeopathic schools of medicine is under the direct guidance of the American Institute of Homeopathy, and the requirements of the American Federation of State Medical Examining Boards are fulfilled in all details, so that graduates may comply with the requirements of all the States and Territorial possessions. The Council on Medical Education of the homeopathic national organization recognizes only acceptable schools, requiring all to conform to a minimum standard. This procedure has tended to reduce the number of colleges and to improve their quality.

At the present time homeopathic medicine is taught in Boston University School of Medicine; New York Homeopathic Medical College and Flower Hospital; Hahnemann Medical College of Philadelphia; Homeopathic Medical School of the University of Michigan; Homeopathic Medical School of Ohio State University; and Hahnemann Medical College and Hospital of Chicago.

Two other State universities include in their medical curriculums the teaching of the homeopathic system of *materia medica* and therapeutics, namely, Iowa State University Medical School and the medical school of the University of California.

In common with all medical schools, those of the homeopathic system have suffered during the biennium 1918-1920 from a fewer number of students, due to two circumstances, the war and the added two years of college work as a preliminary requirement. The 1918 freshmen classes were small, as the armistice was not signed until several weeks after the opening of the college sessions, sufficiently long to make it impossible to secure credit for a full year's work by matriculating at that time. In most schools the senior and junior classes were depleted by the draft, and the sophomore classes nearly wrecked thereby.

In 1919, however, there was a marked increase in the entering classes of all our schools, and the promise of much greater increase for 1920 is bright.

A survey of the various schools is of interest, as showing the actual status during the biennium 1918-1920:

Boston University School of Medicine, Boston, Mass.—This school had a total of 60 students in 1918-19 and 88 students in 1919-20, the increase being for the most part in the freshman class. This institution is in intimate connection with the Massachusetts Homeopathic Hospital, and furnishes postgraduate work to many not enumerated above, which refers solely to undergraduates and excludes postgraduate and special students to the number of 25. Evans Memorial Hospital, with 30 beds; Haynes Memorial Hospital for Contagious Diseases, with 150 beds; and Westboro State Homeopathic Hospital for the Insane, with 1,300 beds, are affiliated with the school. During the past two years there has been improvement in the teaching of the fundamental branches of medicine, especially in anatomy, in which a new system of teaching has been employed.

New York Homeopathic Medical College and Flower Hospital, New York.—This institution is now in its 60th year and has always ranked as one of the largest institutions of the homeopathic school in respect to the number of students enrolled. Its classes, however, have diminished from the causes mentioned, the war and additional requirement of two years of college work. This remark applies to all New York schools. The New York board of regents' certificate is necessary for admission.

The number of students attending during the past two years was as follows: 1918-19—freshmen 10, sophomores 54, juniors 36, seniors 42, total 142; graduates in 1919, 29. Year 1919-20—freshmen 31, sophomores 18, juniors 43, seniors 34, total, 126; graduates in 1920, 31.

This school, besides its own hospital, has affiliation with the Metropolitan Hospital, the New York Ophthalmic Hospital, and the Willard Parker Hospital. Maternity instruction is also furnished by the Lying-in Hospital, the Maternity Hospital, and the Sloan Hospital for Women. There are 18 full-time men on the faculty.

Hahnemann Medical College of Philadelphia.—Hahnemann Medical College, of Philadelphia, has two departments, a school of medicine and a school of science, which conforms to the request of the Pennsylvania Bureau of Medical Education and Licensure to the medical colleges of the State to give the required instruction in physics, chemistry, and biology. This enables this institution to offer a combined course yielding the degrees of B. S. and M. D. in six years under a legal charter. This is the custom with most State university schools.

This is the oldest homeopathic medical college in the world, and this report comprises the seventy-first and seventy-second annual sessions, the attendance in the medical school being 144 and 133, re-

spectively, and in the school of science 60 and 78, the totals being 204 for 1918-19 and 223 for 1919-20.

This institution is endowed to the amount of \$325,000, and the property valuation is approximately \$3,000,000. There is a loan fund of \$40,000, the income of which is lent to deserving students. The school places a limit of 40 students in each class. Besides the hospital intimately connected with the college, it affiliates with St. Luke's, Children's, and West Philadelphia Hospitals, and with the Allentown State Homeopathic Hospital for the Insane. In these and other hospitals, approved by the council, graduates secure the hospital intern year required by the Pennsylvania law as a prerequisite to the receiving the license to practice in the State.

Homeopathic Medical College of Ohio State University, Columbus, Ohio.—This college was the result of the union of the homeopathic schools of Cleveland and Cincinnati with the University of Ohio in 1914 and is one of the 10 colleges and schools of that university and is located on the university campus at Columbus. The first unit of a new hospital was opened in 1916 and has accommodations for 60 patients, in addition to the old hospital, which accommodates about 30 patients.

The chief event in the biennial period just closing is a gift of \$400,000 from Mr. Charles F. Kettering, of Dayton, which is to be devoted to scientific investigation of disease according to homeopathic methods. A fine laboratory devoted to homeopathic research, the best in the homeopathic school of medicine, already exists in this college, made possible by previous gifts from the same generous donor. The results of the work done in this laboratory as far as published have attracted much attention in the medical world.

Homeopathic Medical School of the University of Michigan, Ann Arbor.—The oldest homeopathic medical college connected with a State university was established 45 years ago. At the time of its establishment it had two teachers; its growth has been steady, and at present there are five full professors, two assistant professors, three instructors, and six assistants, all of whom are full-time men.

This school has ever maintained its position as one of the leading medical educational institutions of the homeopathic school.

The developments of the past two years include the erection of a new Children's Hospital, accommodating 70 patients, which was opened in November, 1918, for the reception of influenza patients occurring in the students' United States Army and Navy training corps connected with the university, and after the subsidence of the epidemic it reverted to its original purpose.

Hahnemann Medical College and Hospital, of Chicago, Ill.—Hahnemann Medical College and Hospital of Chicago has become

the medical department of the University of Valparaiso. The college and hospital are owned by the same board of trustees, and the teaching staff of the hospital is the teaching faculty of the college. The out-patient department is conducted by the college for the hospital. The trustees have a fund of \$537,000, the income of which may be used in accordance with their judgment for the various departments under their jurisdiction.

The number of students for 1918-19 was 44, and 46 for 1919-20. The college has been in existence since 1860, and has a large and influential alumnus body which contributes each year liberally to its maintenance. It is one of the well-equipped institutions of the homeopathic system of medicine.

State University of Iowa.—The College of Homeopathic Medicine of the State University of Iowa was merged with the College of Medicine of the State university by an act of the legislature of 1919, to take effect at the opening of the college year 1919-20. The act of the legislature—

authorized and directed the board of education to establish and maintain in the college of medicine a chair of homeopathic materia medica and therapeutics; that suitable hours should be established in the clinic, and that during such hours as were occupied by the department of materia medica and therapeutics there should be no other lectures or recitations in the college of medicine.

The board also ordered that the head of the department of materia medica and therapeutics have the same privileges and rights as the head of any other department of the college of medicine.

The legislature also authorized that rooms and other equipments be provided so that the department could use clinics and have as many patients as they desired at the hospital.

All this was faithfully carried out during the year 1919-20 as far as could be under the existing conditions of stringency of fuel. Ten students registered for the department, but many others attended; so that homeopathic materia medica and therapeutics were taught more hours and to a larger number of students than in recent previous years.

University of California, San Francisco, Calif.—Hahnemann Medical College of the Pacific, an institution of some 30 years' standing, with fine properties consisting of college buildings and a hospital of 100 beds, effected an agreement with the medical school of the University of California whereby homeopathic medicine might be taught therein. This plan is working out in a satisfactory manner. There are two homeopathic chairs, homeopathic materia medica and applied homeopathic therapeutics, each with assistants and hospital accommodations.

RÉSUMÉ.

There were 45 more students in homeopathic medical colleges in 1919-20 than in 1918-19, and the increase in the freshman class was the largest. The sophomore class was the smallest, which was the one entering after the declaration of war. There has been much improvement in hospitals, laboratories, and facilities in all the schools, and the aim of educating practical physicians rather than scientists and specialists has been carried on successfully in all.



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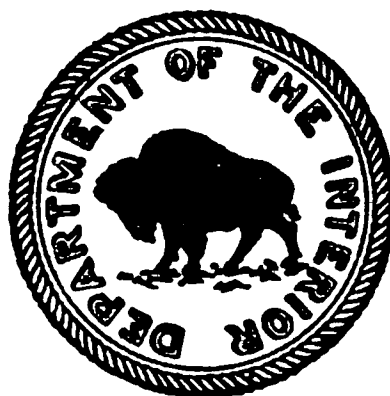
KINDERGARTEN EDUCATION
1918-1920

By

JULIA WADE ABBOT

LB1140 *Kindergartens*

[Advance sheets from the Biennial Survey of Education in
the United States, 1918-1920]



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KINDERGARTEN EDUCATION, 1918-1920.

By JULIA WADE ABBOT, Specialist in Kindergarten Education.

CONTENTS.—Kindergarten extension—Kindergarten legislation—Kindergartens in towns and villages—Two war activities continued—The kindergarten and the home—The kindergarten and the school—Surveys recommend establishment of kindergartens.

KINDERGARTEN EXTENSION.

The unified effort of women during the war for the conservation of child life has brought about an active interest in the extension of kindergartens. Two aspects of kindergarten work relate directly to needs discovered during the stress and strain of the war: (1) The need for organized child-welfare work in the preschool years; (2) the need for emphasizing the social aspect of school work, such as home visiting and mothers' meetings. A number of women's organizations have undertaken kindergarten extension work.

An organized campaign for kindergarten extension in Texas was undertaken early in 1919 as the outcome of activities pertaining to "Children's Year." The combined strength of the child-welfare department of the State Council of Defense, the State Federation of Women's Clubs, the State Congress of Mothers, and the kindergarten section of the State Teachers' Association has been directed toward making effective the law enacted by the Texas Legislature in 1917. A fund devoted to child-welfare activities by the child-welfare department of the State Council of Defense made it possible to defray the expenses of a field worker for a time, with the result that in a number of Texas cities kindergartens were established for the first time as part of the public-school system.

The education department of the General Federation of Women's Clubs has begun a campaign which has as its object a kindergarten in every elementary school in the United States. The subject of kindergarten extension was presented at two sessions of the biennial meeting in Des Moines, June, 1920. A kindergarten chairman has been appointed in each State, and will cooperate with the kindergarten chairman of the General Federation in making a State survey of kindergarten conditions. The subject of kindergarten extension is to be a part of the program of each State meeting.

The National Congress of Mothers and Parent-Teacher Associations has had a department of kindergarten extension for six years. In cooperation with the National Kindergarten Association, progressive legislation has been secured in a number of States. Following the passage of the mandatory-on-petition law in California, the National Kindergarten Association has maintained a field secretary, and the rapid growth of kindergartens in that State has proved the value of this plan.

An intensive campaign is being carried on in North Dakota by the State kindergarten chairman. The names of organizations and individuals interested in kindergarten extension are being secured through the cooperation of county superintendents. Presidents of local clubs are then to form a kindergarten committee to cooperate with the county superintendent. In this way it is expected that public interest will be aroused and petitions, with the required number of signatures requesting the establishment of kindergartens, will be presented to local school boards. Local club presidents are including the subject of kindergarten education in their yearly program. When it is not possible to secure a speaker, a lecture with accompanying lantern slides provided by the kindergarten division of the Bureau of Education is presented.

The formation of State Kindergarten Associations, provided for by an amendment to the constitution of the International Kindergarten Union, is proving another means of coordinating kindergarten interests in the State. Indiana has formed a State organization, and Michigan, New York, and Wisconsin have tentative organizations on a State-wide basis. Ohio has had a State organization for a number of years, and is carrying on a vigorous campaign for more kindergartens under the slogan, "First Aid to the Uninjured!"

Virginia, at its State Teachers' Association meeting in Richmond, passed a resolution dissolving the separate kindergarten and elementary sections and established in their stead an organization "which shall have as its aim the education of children from 4 to 8 years of age."

The New York State Association is working for the passage of a mandatory-on-petition kindergarten bill. Illinois is also organized for progressive kindergarten legislation, and Washington is carrying on an educational campaign under the auspices of the State Normal School. The Louisville Kindergarten Association is planning a State campaign.

As a result of the activities of the Baltimore Kindergarten Club, Maryland, the board of education has made provision for 10 new kindergartens in the public schools, and a preprimary training department has been established in the Baltimore Teachers' Training School.

KINDERGARTEN LEGISLATION.

Arizona.—The influence of the kindergarten movement in California and Texas has made itself felt in Arizona, and a kindergarten law was enacted by the legislature of 1919. The two main provisions of the measure are as follows: (1) Upon petition of the parents or guardians of 15 or more children between the ages of 4½ and 6 years residing within 2 miles of any elementary school building, the board of school trustees of a district shall "employ proper certificated teachers in kindergarten schools in such elementary school buildings"; and (2) the board of supervisors of each county is authorized to levy such additional tax upon the taxable property within such school district as will be sufficient to cover the expenses of kindergarten classes.

Changes in Indiana law.—The new law in Indiana includes several improvements upon the former law. State funds for tuition may now be used for kindergartens as well as for other grades of the common schools; the power to levy a tax of 2 cents on the \$100 is now extended to incorporated towns and cities of less than 6,000 population; and the turning over of the fund resulting from this tax to a kindergarten association for the support of kindergartens is now left to the discretion of the school authorities.

New school code in Delaware.—A new school code adopted in Delaware gives to county boards of education the power to provide kindergartens.

Permissive kindergarten legislation in Alabama and Virginia.—In the new school codes of Alabama and Virginia permissive kindergarten legislation authorizes the use of local funds for the maintenance of kindergartens.

KINDERGARTENS IN TOWNS AND VILLAGES.

In towns and villages of fewer than 2,500 inhabitants there were enrolled in kindergartens during the school year 1917-18 approximately 21,000 children, under the direction of nearly 600 teachers. The leading States for kindergartens in smaller places are Michigan and Wisconsin, with Nebraska, Iowa, and California coming next in order.

The need for further extension of the kindergarten in the rural districts has been recognized in other States. A campaign to reach rural communities has been organized in Texas. That this campaign is in relation to a real need is evidenced by letters received by the kindergarten division of the Bureau of Education. A mother in Texas writes:

I have just read in the Dallas Times-Herald that you are launching a movement for better kindergarten work in Texas, and I want to wish you Godspeed.

I am a country mother with two small sons and I have a horror of putting them in a school, knowing they will have to sit on a seat from 8 a. m. until 4 p. m., with perhaps two or three 10-minute reading lessons and maybe a little number work. I believe every rural school should have a kindergarten teacher. They might combine kindergarten and first-grade work.

A teacher in a Maryland country community writes:

We are in great need of a kindergarten here in this town. Many children are solitary little ones from isolated small farms and country homes and need badly the socializing influence of the kindergarten and supervised work and play. They have few toys and no books in the homes, and we do the best we can during their first and second grades to have the play spirit, but with our course to cover and 78 little ones in the first and second grades it is about impossible.

A county superintendent in North Dakota writes:

In our consolidated school I can see my way clear to strongly recommend the installation of kindergartens. In this county there are about 600 children who should receive the benefit of kindergarten training. So far as I know, there has been only one attempt made at this work in this county, and that was a private kindergarten in which I had my two little youngsters enrolled. This is a work that the public in general has had very little time to consider so far, but I keenly feel the great necessity for vigorous and determined action along this line of work.

In one town in Texas a small group of club women solved the problem of securing a kindergarten by collecting \$1 for each inhabitant and building a beautiful little bungalow, which was presented to the board of education, and Lufkin had a kindergarten.

A kindergarten-primary course is being given at the Chico Normal School, California, with special emphasis upon training teachers in rural schools to meet the needs of the younger children. The fact that all of the State normal schools of Texas have opened kindergarten training departments gives promise of enough trained kindergarten teachers for the towns and villages that open new kindergartens.

TWO WAR ACTIVITIES CONTINUED.

Two important phases of kindergarten work that were carried on during the war are still furthered by kindergarten teachers throughout the country. They are Americanization among the foreign-born children and the support of the kindergarten unit in France.

The kindergarten unit in France.—In appreciation of the service rendered by the 15 kindergarten teachers sent by the kindergartners of America to minister to the little French children, Dr. William Palmer Lucas, chief of the children's bureau of the American Red Cross in France, congratulates Miss Curtis, director of the unit, on the record achieved, and says: "Your choice of the personnel and the place they have made for themselves in every community where they

have worked is, in my opinion, one of the finest records made in France."

The unit has extended its field in these days of reconstruction by sending traveling kindergarten camionettes, in little Army wagons, to the villages in the Aisne during the summer of 1919. The kindergartners go from village to village, telling stories and playing games with the children, and leaving with them interesting handwork which keeps the children busy and happy until the kindergarten camionette can make its next visit. The French Government has given a camionette to establish the same type of work around Lille, with headquarters at Arras.

The unit brought joy to many French children at Christmas time, when large Christmas trees were brought from Belgium and erected in the devastated villages of the Aisne, where the unit has been carrying on its work. The children of Boston sent 1,500 dolls to their little French sisters.

The French Government has been convinced of the value of the educational methods of the American kindergarten teachers as well as of the value of their social work. A *jardin d'enfants* training department is to be opened in Sèvres College in October by the French Government. Mademoiselle Amieux, the president of the college, is heartily in sympathy with the aims and methods of kindergarten work and welcomes the incorporation of a kindergarten training department in this college for training teachers in France.

In July, 1919, Miss Curtis, with Miss Aborn, president of the International Kindergarten Union, went to Serbia, and as a result of their visit a kindergarten is to be opened the first of October, 1920, in an orphanage for war orphans in Belgrade.

Americanization.—The kindergarten has always been an important Americanization agency. Before the war had awakened the whole Nation to the need for Americanization work among the foreign born the kindergartner was going to the homes of the foreign mothers and giving them friendly help and advice in relation to the customs and institutions of their adopted country and concerning the care and welfare of their children. The foreign women were persuaded to attend mothers' meetings in the kindergarten room, and so were brought into close sympathy with the school.

This social aspect of kindergarten work was carried on more intensively than ever before by the kindergarten teachers during the war period; and in the days of reconstruction the work with the foreign born has been expanded through affiliation with other organizations. In several cities the kindergarten teachers have worked in conjunction with the international institute of the Young Women's Christian Association.

The International Institute of the Young Women's Christian Association is a service bureau for the foreign born. In appreciation of the value of the kindergarten to the foreign mother a kindergarten pamphlet has been prepared and published in 16 foreign languages. It explains in a simple, readable manner what the kindergarten does for the child and how it helps the mother. Through cooperation with the kindergarten division of the Bureau of Education, this pamphlet has been widely distributed in cities throughout the country having a large foreign population. The practical work of the International Institute is divided into two classes—case work and group work. From Pittsburgh is sent this statement:

The group work is both educational and recreational in character, with a strong emphasis on the recreational side. In all group work, as far as possible, the idea of reciprocity is brought out, and the fact that American culture is composed of contributions from all the world is emphasized. Groups are gathered from various sources, but it is felt that work with the groups formed in seven schools through the cooperation of the kindergartens will have a far-reaching result. Pittsburgh kindergartners in the foreign districts of the city realize the immense difficulty of getting the foreign-born women to come to the mothers' meetings. The reluctance on the part of the foreign women is quite understandable. Inability to speak or to understand English, timidity in the presence of the American mothers, often makes the meeting anything but pleasurable. However, the kindergartens have met with a measure of success, but after the children leave kindergarten the mothers practically never come in contact with the school.

The kindergarten teachers in the public-school kindergartens of Pittsburgh have done such effective work in home visiting that their services are to be employed as school visitors in the homes of the children in the grades as well as in the homes of the kindergarten children. This social work is made the basis upon which the kindergarten teachers receive the same salary as the teachers of the elementary grades. In Chicago, Ill., Springfield, Mass., and Washington, D. C., kindergarten teachers, because of their special ability, have been appointed directors of the Americanization work of the public schools. In Minneapolis a group of kindergarten teachers have worked in a large Polish district under the direction of the visiting teacher of the public school, making a house-to-house canvass, and bringing information to the school authorities of the condition of the families in the district. The kindergarten teachers, through their local club, volunteered to do this work. Following their example, a group of primary teachers have offered their services.

THE KINDERGARTEN AND THE HOME.

The Bureau of Education committee of the International Kindergarten Union is making a study of the curricula of women's colleges in order to determine what these institutions for higher

education are doing to train young women for the responsibilities of home making and child training. To quote from the report of the chairman of the committee:

The inquiry has hardly more than begun, but it is already apparent that a conception of fundamental importance in the preparation of young women for life is being ignored—that of the significance of the child in the home and to society, and the relation of women to its development and training. Many of the colleges whose curricula have been studied have well-equipped home economics departments and offer admirable courses in dietetics, textiles, household management, and the several household arts. Practically none of these offer courses in that highest of arts—the directing of young lives into channels of right thinking and doing. The kindergarten training school has been almost alone among educational institutions in standing for the need of training for motherhood. Because of the experience of kindergarten graduates as to the value of such training, kindergartners feel that they have a contribution to make to the curricula of other institutions for the education of young women. To attempt to convert the women's college to this view may be an ambitious task, but it is one to which the committee in question is committed.

The University of Minnesota has recognized the importance of including child training as a part of home making by offering a course in child training by a kindergarten specialist to the students of the home economics courses.

Two newspaper bulletins on kindergarten principles applied to the training of children in the home have been prepared by the kindergarten division of the Bureau of Education and have been widely distributed to newspapers throughout the country. Such topics as *Baby Talk*, *Common Sense in Managing Children*, *Children and Their Toys* have been treated by the foremost specialists in kindergarten education in the country, with the purpose of helping mothers in the upbringing of their children in the complexity of modern life.

THE KINDERGARTEN AND THE SCHOOL.

Salaries of kindergarten and first-grade teachers.—A comparison of the salaries of kindergarten and first-grade teachers is based upon data compiled from the answers of 72 cities to a questionnaire sent out by the Bureau of Education. The cities are in the following States: Alabama, Arkansas, California, Colorado, Connecticut, Georgia, Indiana, Iowa, Kansas, Louisiana, Maine, Massachusetts, Michigan, Minnesota, Montana, New Hampshire, New Jersey, New York, Ohio, Oklahoma, Pennsylvania, Rhode Island, South Dakota, Texas, Virginia, Washington, and Wisconsin.

The maximum salaries of kindergarten teachers range from \$495 to \$1,600 a year. These figures represent the salary schedule of 1918. In a number of cities a new salary schedule goes into effect during 1919 which will bring the range of maximum salaries from \$600 to \$1,800 a year.

In 31 cities kindergarten and first-grade teachers receive the same salary and teach two sessions with the same hours of classroom work.

In 17 cities kindergarten teachers who teach two sessions, but whose classroom work is from 30 to 90 minutes less than that of the first-grade teacher, receive the same salary as the first-grade teacher.

In 12 cities where the kindergarten teachers have one session and shorter hours of classroom work, they receive a lower maximum salary than the first-grade teachers.

In 17 cities the teachers of the upper grades receive higher salaries than the kindergarten and first-grade teachers. In 13 of these cities kindergarten and first-grade teachers receive the same salary. In 1 city the kindergarten teacher receives a higher minimum; in 3 cities the first-grade teachers receive a higher maximum than the kindergarten teachers, but not as high as the upper-grade teachers.

This study indicates that the kindergarten and first-grade positions are on an equal salary basis in the majority of cities.

New tendencies in kindergarten practice.—Modern educational theory is bringing about changes in the methods and materials of both the kindergarten and first grade. An inquiry concerning the educational equipment of a modern kindergarten reveals not only interesting changes in the material used but a decided change in methods.

Indoor equipment.—Large material in bulk is replacing a limited number of small blocks in boxes. The use of cloth and wood and other industrial materials is replacing the sewing cards and fine paper-weaving mats. Free choice of materials on the part of the child and invention in carrying out his play purposes characterize this type of kindergarten work.

Outdoor equipment.—Emphasis upon out-of-doors play suggests that a modern kindergarten be equipped with swings, seesaws, balancing boards, slides, and sand piles, and that, when weather permits, other kindergarten activities be carried on out of doors.

Standardization of kindergarten practice.—While a freer method is becoming more general in kindergarten practice, a widespread desire to determine standards for kindergarten procedure has been shown by superintendents, assistant superintendents, supervisors, and teachers. The large demand for the kindergarten curriculum prepared by a committee of the International Kindergarten Union and recently published by the Bureau of Education is an evidence of the fact that a better knowledge of the kindergarten is desired by school people. Another committee has been appointed whose work will be the preparation of a primary curriculum based upon the kindergarten curriculum.

Changes in the elementary school.—Reports of two committees of the National Council of Primary Education give evidence of the

fact that the work of the kindergarten is beginning to affect the first grade. A committee reporting on an adequate equipment for a first-grade room emphasizes the need for movable furniture, a space for games and free dramatization, and the kind of materials that will carry on the processes already begun in the kindergarten. The report of a second committee deals with the time allotment given to the various activities of the primary school and the nature of the work of the between-recitation periods. An increasing emphasis is being placed upon activities in which the children exercise their own initiative instead of having the work of all the periods prescribed by the teacher.

Supervision of kindergarten and primary grades.—A more organic relation between the kindergarten and the elementary school has been brought about in a number of cities by employing teachers in the kindergarten and the first grade who have had training in both kindergarten and primary work. It is possible to secure the service of teachers with this training because kindergarten-primary courses are being offered in many normal schools. Because of this training the kindergarten teacher understands the work of the grade for which her children are being prepared, and the primary teacher is able to build upon work of the kindergarten. In a number of cities, among which are Denver, Colo., Trenton, N. J., and New York City, the kindergarten teacher passes on with her children into the first grade, alternating terms in the kindergarten and first grade. In this way there is established a continuity in the work, just as there is continuity between any other two grades in a school system.

Supervision of the kindergartens and primary grades by one who has had training and experience in both fields has also tended in a number of cities to unify the work of the first years of school life.

A kindergarten representative in the State department of education in Pennsylvania is to be appointed by the State superintendent, whose duties shall be the extension of kindergartens throughout the State and the unification of the work of the kindergarten and the primary grades in those cities where kindergartens are already established.

SURVEYS RECOMMEND ESTABLISHMENT OF KINDERGARTENS.

A survey of education in Hawaii made by the Bureau of Education recognizes the valuable work being done by the Free Kindergarten and Children's Aid Association of Hawaii. The following statement occurs in the report:

Recently one of the members of the survey commission, visiting the public plantation school at Hamakuapoko, Maui, observed that the children of the class of beginners, made up almost entirely of orientals, were unusually responsive to the questions of their teacher, and replying in language of a much better

quality than most beginning children on the plantations can command. Upon inquiry it was learned that the entire class had had training in a near-by kindergarten maintained privately by one of the plantation owners.

Largely in response to the excellent work done by the Free Kindergarten and Children's Aid Association of Hawaii, the Territorial legislature at its last session authorized the department of education to organize one kindergarten on each of the four principal islands. While this program has not yet been fully executed, as insufficient funds were provided, nevertheless it is the first step in a plan which the commission sincerely hopes will lead, within a very short time, to the organization of a kindergarten in every school in the Territory. The commission is convinced, after a careful study of the conditions which obtain in the islands, that no more important single step in Americanizing the children of the foreign born can be taken than in the establishment of a kindergarten or kindergartens in every settlement in the Territory. In order to make such a project a success, it will be necessary for the department to secure an efficient head to this work and to establish training courses under competent directors for the training of teachers for kindergarten work. In this connection the commission would recommend that the training of teachers for the kindergarten be made a part of the work of the educational department of the university, which the commission has recommended elsewhere.

The kindergarten specialist was a member of the survey commission which conducted a survey of the schools of Winchester, Mass. The recommendation was made to increase the number of kindergartens so that all the children of Winchester might have the privilege of kindergarten training now enjoyed in only two of the elementary schools.



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DEVELOPMENTS IN NURSING EDUCATION SINCE 1918

By

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[Advance sheets from the Biennial Survey of Education in
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DEVELOPMENTS IN NURSING EDUCATION SINCE 1918.

By ISABEL M. STEWART, A. M., R. N.

Assistant Professor, Department of Nursing and Health, Teachers College, Columbia University, New York, N. Y.

Contents.—The situation in nursing before 1918—The demands of the war and how they were met—Decline in applicants following the war—The work of student nurses in hospitals—Hours of duty in hospitals—Health, recreation, and social life in nursing schools—The growing movement toward student government—Standards of admission to nursing schools—The nonresident student nurse—Improvement in courses of study—The Army school of nursing—Affiliations between nursing schools and other educational institutions—Nursing courses in colleges and universities—Scholarships for nursing education—Investigations and surveys—Organized publicity for nursing schools—Financial support for nursing schools—Reactionary movements—Some new educational measures to meet the present situation—The future.

THE SITUATION IN NURSING BEFORE 1918.

In order to understand the problems in nursing education to-day it is necessary to go back to the conditions immediately preceding the war and to see how these conditions have been affected by the radical changes taking place in our social and economic structure.

The outstanding feature of nursing work in the past decade has been the enormous expansion which has taken place within a very few years, not only an increase in the bulk of work to be done but in the range of opportunity and responsibility and in the widely varied demands which have to be met.

Part of this has been due to the rapid multiplication of hospitals and to the highly specialized departments which have been opened up within these institutions. Every advance in medical science or in hospital administration or nursing education has created a demand for new varieties of experts, such as the nurse anaesthetist, the hospital technician, and the trained instructor of nurses. Private nursing has also undergone some expansion, but the greatest development has been found in the field of public health work. Where 10 years ago a few hundred nurses only were to be found in visiting nursing or social welfare work, there were in 1918 approximately 8,000 employed in this country by public schools, State and city boards of health, industrial establishments, child welfare organizations, and other civic and social agencies. This number is now increased to over 10,000. Most of this work is not solely or even

mainly for the relief of sickness; it is quite as much for the prevention of sickness. During the past 10 years the nurse has established herself as one of the mainstays of the public health movement in this country, and the movement itself is going ahead by leaps and bounds.

This changing emphasis in nursing and the remarkable extension of the nursing field inevitably created a demand not only for more nurses but for nurses with different preparation. It was not surprising that there should have been a shortage of highly qualified women for the new positions. Although good organizers and executives have always been found in hospital work, the rapid increase of these institutions alone more than exhausted the available supply, and the new educational needs of over 1,500 nursing schools found few leaders prepared to grapple with them. It was evident, therefore, that the best effort of nursing schools should be directed toward recruiting and training able women for these executive and educational positions in hospitals and in the new branches of public-health work, as well as for the needs of the private family.

The more farsighted schools of nursing throughout the country realized this need and made some effort to meet it by steadily raising their admission standards, by endeavoring to broaden and strengthen their curricula, and by introducing some, at least, of the newer subjects required by the changing demands of the field. The students coming into these more progressive schools were on the whole an earnest and capable body of young women, a number of them graduates from colleges, normal schools, or other of the higher educational institutions.

A few universities had organized departments or courses for nurses needing advanced training, and were sending out a growing body of superintendents of nursing schools, teachers, and public-health nurses. Such women were making their influence felt throughout the country, but the number was never anything like equal to the demand. Institutions training such workers were usually besieged by requests for their graduates, and never supplied more than about a tenth of the positions they were asked to fill.

The constantly repeated requests for nurses of the highest personal qualifications, combined with advanced education and specialized training, made it perfectly evident that the older standards for judging "a good nurse" were giving place to a newer and much more exacting set of standards. Unless nursing schools could recruit and train a sufficiently large body of women with these higher standards of intelligence, initiative, knowledge, and professional skill, the whole program of nursing and much of the health work in the country would undoubtedly suffer seriously.

This question of the quality and the numbers of nurses coming into the field was the big problem, even before the war. While

nursing schools with established reputations and good resources had little difficulty in satisfying their own needs for students, the great majority of the hospitals in the country were complaining that they could not secure the numbers or the kind of applicants necessary to carry on their nursing service satisfactorily. In most hospitals the suggestion of paying graduate nurses or helpers to supplement the work of pupil nurses was not even considered. If students with acceptable qualifications did not present themselves, they could see no other way than by further reducing the standards of admission. The result was that a good many of the young women who were admitted and graduated from hospitals were educationally and personally unqualified for even the minor positions in the profession, and the higher ranks were left very inadequately supplied to meet the new and heavy responsibilities which were confronting the profession as a whole.

The number of nurses in the country at large was roughly estimated at the beginning of the war at about 200,000. About 115,000 (98,000 registered and 17,000 unregistered) graduate nurses were engaged in all branches of nursing service. Untrained and partially trained "practical" nurses made up the remainder. The only field which was reasonably well supplied with nurses was that of private nursing, which absorbed at that time probably 75 per cent of the total number. In addition there were about 45,000 student nurses in training.

THE DEMANDS OF THE WAR AND HOW THEY WERE MET.

The war made a very heavy draft on these nursing resources. In addition to Red Cross detachments which were already in Europe, in 1917 the Army and Navy called for, first, 10,000 and later 30,000 graduate nurses. Meanwhile the volume of work in hospitals and public health organizations at home increased rather than diminished.

The first impulse was to throw in a large body of untrained volunteers to dilute the trained personnel. Fortunately the committee on nursing of the Council of National Defense¹ had seen the demoralizing effect of this policy in other countries, not only on the efficiency of the military nursing service but on the civilian nursing system as well. Looking to the future as well as to the immediate needs, they determined to meet the emergency by increasing as rapidly as possible the numbers of pupil nurses in hospitals, pushing them forward and if necessary graduating them earlier, so that there would be a steady and increasing supply of trained women for the more responsible and difficult work overseas and at home. The results amply

¹ Report of the committee on nursing of the general medical board of the Council of National Health.

justified the wisdom of this policy, for not only were the demands of the Army met (the deficiencies were due to lack of transportation, not lack of nurses) but the hospitals at home had probably never been so well supplied with students.

By means of widespread publicity the number of young women entering nursing schools during 1917 and 1918 was increased by 25 per cent (at least 7,000 over previous years). Every effort was made to attract the more serious and better educated group of war volunteers for this service, and as a result the average of education among student nurses increased noticeably. In spite of the unusual strain due to the war and epidemic and the disorganization of teaching and supervisory staffs in hospitals the educational status of nursing schools was in certain ways better at the end of the war than at the beginning. The spirit of all the workers, students, and graduates during that trying time was exceptional. Many of the old barriers of precedent and tradition were broken down, and there was a greater willingness to try new methods and to combine forces with others in an effort to conserve limited strength and other resources. Some of these war experiments, which will be described later, have been incorporated in our present system and promise to be of permanent value.

Probably the greatest contribution of the war experience to nursing lies in the fact that the whole system of nursing education was shaken for a little while out of its well-worn ruts and brought out of its comparative seclusion into the light of public discussion and criticism. When so many lives hung on the supply of nurses, people were aroused to a new sense of their dependence on the products of nursing schools, and many of them learned for the first time of the hopelessly limited resources which nursing educators have had to work with in the training of these indispensable public servants. Whatever the future may bring it is unlikely that nursing schools will willingly sink back again into their old isolation, or that they will accept unquestionably the financial status which the older system imposed on them.

DECLINE IN APPLICANTS FOLLOWING THE WAR.

After the armistice and the end of the influenza epidemic a kind of reaction began to set in. A number of those who had enlisted "for the duration of the war" dropped out, and applications began to fall off noticeably. This condition was, of course, not peculiar to nursing. As everyone knows, there has also been a shortage of physicians, trained clerical workers, engineers, librarians, clergymen, and notably of teachers. It had been hoped, however, that the almost universal interest in nursing which the war developed might con-

tinue and that the newly aroused passion for patriotic work might find a congenial outlet in this permanent form of national service. These hopes have been disappointed. While it is true that the type of applicant in many schools has continued to improve, and that several of the best schools in the country report no shortage of students, the scarcity of nursing applicants in the large majority of hospitals throughout the country has probably been more acute than at any previous time.

This shortage is usually attributed to the war, and doubtless it was precipitated by the war, but it is obvious that the causes go much further back, and that they are to be found in certain social and economic conditions which have long been recognized and which were bound sooner or later to bring these results. Since these conditions are inherent in the present system, it is necessary to discuss them briefly and to show what progress is being made toward their removal.

THE WORK OF STUDENT NURSES IN HOSPITALS.

The system of training which was introduced over 50 years ago, when nursing schools were first established, is practically a system of apprenticeship. It has been modified somewhat to include a certain amount of systematic theoretical instruction, but the very fact that hospitals depend on student nurses for such a large share of their work makes it inevitable that the educational element in the training will be frequently, indeed generally, sacrificed to the practical needs of the hospital.

It has been a constant criticism of nursing schools that they require their students to do a great deal of what would ordinarily be called housework, and that they insist on students repeating indefinitely throughout their two or three years of training more or less routine duties which demand little skill and have little or no educational value. The movement to eliminate some of these duties from the training has gone ahead very slowly, so long as the student service was available, but with the recent scarcity of students hospitals have made much greater progress in turning over to paid helpers such routine ward duties as they could safely perform. A further readjustment of the pupil's practical experience to eliminate educational wastage may make it possible to reduce the total length of the training somewhat without in any way weakening the course as a whole. All these improvements will make the training more attractive to intelligent young women who have hesitated to spend so much time and energy in unprofitable routine in order to secure a training in nursing.

HOURS OF DUTY IN HOSPITALS.

Another thing which has made it hard to attract young women into nursing schools has been the very general system of long hours and consequent overwork in hospitals. In the recruiting campaigns conducted during the war these objections were constantly urged by parents and prospective students.

Although a few prominent hospitals have had an 8-hour day for 25 years or more, and although the general movement for shorter hours in other occupations has gone ahead rapidly, hospitals have been as a rule exceedingly slow in reducing the excessive hours of their student nurses. As soon as the war was over a definite movement was set on foot by the National League of Nursing Education to reduce the hours of duty. Pamphlets² and letters were distributed widely to hospital boards and officers, and some publicity was given the movement in the public press. There is every indication that the solid sentiment of the country is back of this very necessary reform, and that hospitals will be impelled by the force of public opinion, if not by actual legislation, to bring their hours in line with enlightened modern standards.

Already a decided improvement has been noted. Approximately 200 schools (out of 1,600) had in April, 1920, adopted the 8-hour day and night, and a number of others stated that they were planning a gradual reduction of hours. It is significant that a large proportion of the hospitals which are clamoring loudly for more student nurses still have a 10-hour day and a 12-hour night, with all class work, study, and recreation carried on *outside* these hours of hospital duty.

HEALTH, RECREATION, AND SOCIAL LIFE IN NURSING SCHOOLS.

It has generally been assumed that the health of student nurses is improved during their training, and this is undoubtedly true where long hours and overwork have not been allowed to sap the students' strength and energy. Recent evidence tends to show, however, that the sickness rate among nurses in hospitals is, as a rule, higher than among young women of the same age in the population at large. It seems to be also true that a fairly large proportion of the elimination of students in nursing schools is due to broken health.

During the influenza epidemic, when hospitals were overcrowded and nurses were working unusually long hours, the sickness rate was exceedingly high. Numbers of pupil nurses died of infection and weakened systems from overwork, and many were compelled to

² "The Case for Shorter Hours in Hospital Schools of Nursing." Secured from National Nursing Headquarters, 370 Seventh Avenue, New York City.

give up their training. This appalling experience, together with the shortage of nurses which followed closely after, and the agitation for shorter hours have all served to call attention to the need of conserving the health of student nurses. Probably also the tremendous efforts which were made during the war to keep up the health and morale of the Army have had their effect in increasing the provisions for recreation and social enjoyment in similar groups of young people everywhere.

Although much remains to be done, there has been a much greater effort recently to make the social life of the student nurse more attractive and to provide for wholesome recreation. In several schools social directors have been employed for this purpose, and there is an encouraging increase in the number of attractive nurses' homes which are being built with provision for recreation and social life. As a general rule, where hours have been reduced to allow some little margin of free time for outdoor life and good times, the improvement in the health and spirit of the student body has been marked.

THE GROWING MOVEMENT TOWARD STUDENT GOVERNMENT.

There has been a steadily growing dissatisfaction among nursing students with the rather arbitrary methods of discipline which hospitals have inherited more or less directly from the military system. For some years experiments have been tried in a few schools with various modified forms of student government, which place in the hands of the students themselves most of the responsibility for making and enforcing the laws governing the student body outside of the hospital wards. All the experiments have not been successful, but it is evident that there is a steady drift toward a more democratic and less rigid system of control. In some cases this takes the form of an "honor" system, in others a liberal form of faculty government has been developed, and in a few schools a student council has been elected, representing the various classes in the school, and working closely in cooperation with the school authorities. The principal positive result, so far, seems to be that the students and officers of these schools have been brought more closely together and understand better each others' problems and point of view.

STANDARDS OF ADMISSION TO NURSING SCHOOLS.

The discussion of the scarcity of applicants has already brought out the relationship of supply to admission standards in nursing schools. The unfortunate thing is that most hospitals have not yet discovered what other educational institutions have proven re-

peatedly—that students of the right type are not attracted by low but by reasonably high educational standards, and that the lower these standards are allowed to go, the less chance there is of drawing recruits from the better educated group, which every profession wishes to attract. There is every evidence to show that the nursing schools which have maintained the higher standards of admission (full high school) have, as a rule, little difficulty in keeping up the number and the quality of their applicants, while those which have kept down their standards to the minimum, hoping to attract applicants, are the ones which are suffering most acutely from the present shortage.

It is this group of hospitals which is now making every effort to further reduce the standards set by the State laws governing the training of nurses and the practice of nursing. Their main contention is that these minimum educational requirements are excessive and that they are responsible for the decline in applicants to nursing schools. The following figures giving the educational requirements of accredited nursing schools in 41 States will show how much basis there is for these statements:

No educational requirement at all, or none stated.....	349
Grammar-school standing	46
One year of high school.....	488
Two years of high school.....	272
Three years of high school.....	10
Four years of high school.....	291

This means that 60 per cent of the accredited nursing schools of this country do not require more than one year of high-school work for admission, and it is very well known that doubtful “equivalents” are often accepted for even this modicum of higher education.

The panic over the shortage of pupil nurses has led to a number of attacks on existing laws, with the idea of still further reducing these meager educational safeguards, or at any rate preventing any advance in standards. In New York State, for instance, a reactionary clause was forced into the recent nurses’ bill (1920) forbidding any advancement in the present admission standards (one year of high school) for a period of 10 years. No efforts which nurses’ organizations can make, and no arguments on the educational or professional side, seem to have weight enough at present to offset the pressure of short-sighted and often impoverished hospitals, supported by influential trustees and often by members of the medical profession as well, on this question of low admission requirements.

In spite of such legislative reverses, however, it is encouraging to find among individual schools a growing appreciation of sound preliminary education and a steady effort to bring in better prepared women. The most decided step in this direction was taken in the first

year of the war, when a number of prominent nursing schools were induced to allow credit of one academic year to college graduates bringing a certain specified amount of training in the fundamental sciences. At least 600 college women from all sections of the country entered on that basis, and probably there were many more. Though there have been differences of opinion as to the wisdom of reducing the regular three-year course for this special group of students, the plan seems to have been justified by the fact that most of the schools which have tried it are continuing it. The shorter period of training undoubtedly makes it possible for more college women to take the course, and although not all of these will show marked superiority in the professional field, the average is quite evidently somewhat higher than among those of less education.

THE NONRESIDENT STUDENT NURSE.

Another war experiment, which has continued in at least a few schools, is the plan of having some of the student nurses live in their own or in approved homes outside the hospital, during part or most of their training. The Presbyterian Hospital of Chicago had at one time during the war as many as 30 students living outside. Most of these preferred to come into the nurses' home as soon as rooms were available, but a few have continued as nonresidents through most of their course. They have an eight-hour day (9 to 6 p. m.), and do not come to the hospital Saturday or Sunday at all.

Although there are some evident disadvantages about this plan, it has proved to be possible for part of the course at least and is recommended as an economical and practical way of increasing a nursing staff, especially where accommodations for students are limited.

IMPROVEMENTS IN COURSES OF STUDY.

In spite of all the dislocations due to the war and the epidemic, there has been steady improvement in nursing schools during the last two years along the line of standardization of courses and improvement of teaching methods.

The Standard Curriculum³ which was prepared by the National League for Nursing Education a few years ago is being widely used in nursing schools, and although there is still a great diversity in the courses of study of different schools and different parts of the country, they are gradually approaching more uniformity and a better organized program of work.

The number of full-time instructors employed in nursing schools has increased appreciably, and there is a much larger demand for

³ Secured from National Nursing Headquarters, 370 Seventh Avenue, New York City.

trained instructors than can at present be met. Two or three large schools have recently appointed experienced instructors as *educational directors*, making them responsible for organizing and developing all the teaching work of the school. There is also a gratifying improvement in the equipment of classrooms and laboratories, and in the building up of nursing libraries, etc., though nursing schools have still a long way to go in this direction before they begin to compare with most professional schools.

THE ARMY SCHOOL OF NURSING.

This school, which was started in 1918 to help in meeting the need for Army nurses, is being continued as a part of the Regular Army Nursing Corps, with headquarters in Washington. In spite of considerable depletion, the student body still numbers about 500.

Through affiliations which have been arranged with a large number of general and special hospitals and with public health organizations, the students are having a wide and varied experience both in civilian and military institutions, and it is believed that they will be well qualified not only for Army work but for other fields of nursing service which they may wish to enter. The Army school is on the eight-hour basis and has developed an excellent course of study. It has unusual opportunities for experimentation along educational lines and it is hoped may be able to contribute something of distinct value to the system of professional training.

The Army Nurse Corps is also planning to provide opportunities for postgraduate training for its permanent staff of nurses, 2 per cent of the force to be allowed leave of absence, with full pay, for the purpose of securing advanced training along some of the special lines required in the Army service.

AFFILIATIONS BETWEEN NURSING SCHOOLS AND OTHER EDUCATIONAL INSTITUTIONS.

Because of the difficulty of securing trained teachers and proper scientific equipment, a number of nursing schools are turning over some of their preliminary science teaching to technical schools or colleges. In Kansas City, Rochester, N. Y., and a few other centers two or three schools have combined their classes and have made arrangements for a regularly organized preparatory course connected, as a rule, with some educational institution of this type. This movement toward centralization in nursing education is evidently a growing one.

In California prospective students of nursing are encouraged to include certain of the preliminary sciences in their regular high-school course, and some credit is given for these on admission. With

the strengthening of high-school science, it is believed that nursing schools would be quite justified in requiring some of these subjects, such as elementary biology, chemistry, and household science, for admission instead of attempting to crowd them all into the professional course of training. This is quite different from the suggestion sometimes urged that high schools should introduce professional courses in nursing into their regular curriculum. Such a policy would be injurious to the student herself and to the nursing profession and would be a backward rather than a forward step.

NURSING COURSES IN COLLEGES AND UNIVERSITIES.

The prenursing or preparatory course which was given in Vassar College and in a number of university centers during the summer of 1918 showed what might be done on a rather large scale in the way of combining with these higher educational institutions for a part at least of the nurses' training. The standard of teaching was unquestionably higher than could be obtained under existing conditions in the great majority of nursing schools. It seemed to most of those who saw the large and enthusiastic bodies of students who took those summer courses (430 at Vassar College alone) that even if the special incentives of the war period were eliminated there would still be a decided advantage in having this work conducted under the auspices of a recognized college or university. The great weakness in such detached courses lies in the fact that there is no organic connection with the hospital in which the practical experience and subsequent training of the student is to be carried on. The hospital misses the early contact with the student, and the educational institution which sponsors her in the beginning of her course has no means of assuring her a complete and well-balanced system of training throughout. The university nursing school of the type which has been so successfully developed in the universities of Minnesota and Cincinnati is undoubtedly more satisfactory, in that it is able to carry its students through from the beginning to the end of their professional course.

A recent development in several universities is the combined academic and professional course of from four to five years, leading to the nursing diploma and the bachelor of science degree. The usual arrangement is to admit the student, on the completion of her high-school course, for two years of preliminary work in the university, then to give her two years of professional training, and finally a period in the university during which she may specialize in some particular branch of nursing work. Several universities have introduced this type of course within the past two or three years, among them Cincinnati, Minnesota, Columbia, Michigan, California, Colo-

rado, Northwestern, Indiana, and Washington, and Simmons College. It is understood that only a moderate proportion of students in the nursing school would probably take the longer course leading to the degree, but that it would be open to any who could meet the necessary requirements. A pamphlet has been prepared by the Education Committee of the National League of Nursing Education,³ describing in some detail this type of university course.

During the past year (1921) a further step has been taken in the University School of Nursing in Minneapolis by which an amalgamation has been made of three or more nursing schools under the university. A similar plan of centralization is being developed in Cleveland under the auspices of Western Reserve University. There are obviously many advantages in such an arrangement, and it is believed that nursing schools, like medical and other professional schools, will more and more tend to consolidate their educational work in a few strong schools rather than in many small or weak ones.

Probably the most encouraging feature of the whole situation in nursing education is the growing demand from graduate nurses for advanced courses of study and training. During the past two years most of the centers of higher education for nurses have been crowded to overflowing. In the largest of these (Teachers College, Columbia University) 295 nurses were registered during the past college year, and 196 more in the summer session; 15 of these were working for their master's degree and 55 for the bachelor's degree, while most of the others were qualifying for professional certificates and diplomas.

During the past two years several new courses for graduate nurses were opened in universities, among them courses for public-health nurses in Minnesota, Michigan, California, and North Dakota Universities. Peabody College, Tenn., Cincinnati University, and McGill University, Montreal, Canada, have also announced courses for instructors of nurses.

SCHOLARSHIPS FOR NURSING EDUCATION.

A number of scholarships for nurses are available yearly from such funds as that of the Isabel Hampton Robb scholarship and the Isabel McIsaac loan funds of the national nursing associations. Several hospitals are also giving yearly scholarships to their own graduates for advanced educational work. In 1919 the large sum of \$115,000 was appropriated by the American Red Cross for nursing scholarships, \$100,000 of it to go to those wishing to prepare themselves for public-health work and the rest to those taking special training for teaching in nursing schools. The Red Cross has continued this work during 1920. These scholarships have gone mainly

³ Secured from National Nursing Headquarters, 370 Seventh Avenue, New York City.

to nurses who served in the Army, Navy, or Red Cross. The National Organization for Public Health Nursing also appropriated \$10,000 in 1919 for the training of nurses as teachers of public-health nursing.

The Federal Board for Vocational Education has extended to nurses who have some disability as a result of their war service the same opportunities for further training as are provided for men from the Army and Navy. This means usually a year or more of special or advanced training, with fees and all expenses paid. Some of the States are offering similar educational facilities to nurses who have been on active service during the war.

INVESTIGATIONS AND SURVEYS.

Nursing schools have been under criticism for some years because they have not been producing enough qualified nurses to meet the needs of the public health field and because the type of training given has not been of the kind to prepare these workers adequately for their duties. It was being urged by a few physicians in public health work that a new type of worker without nursing training should be developed for this field. This led to a general conference and finally to the suggestion of a thorough investigation of the whole question by the Rockefeller Foundation. Dr. C. E. A. Winslow, professor of public health, of Yale University, was made chairman of the committee, which is composed of prominent nurses, physicians, public health workers, and others representing the public; and Miss Josephine Goldmark was engaged to conduct the investigation. After the first year's work, it was decided to extend the investigation to cover the whole field of nursing education. This survey has not yet been completed, but it promises to be one of the most important contributions which has been made in recent years to nursing education.

In 1919, Miss Goldmark and her staff assisted in a survey of the hospital and public health situation in the city of Cleveland. The reports of this survey, which have just been published,⁴ include a careful study of the system of nursing education in Cleveland, which may be considered as fairly typical of the larger cities of the United States.

A State survey of nursing schools in Missouri has also been made recently under the auspices of the nursing associations of Missouri. Miss Sara Parsons, formerly superintendent of nurses of the Massachusetts General Hospital, has been in charge of this work. Several other States in the South and West are now asking for a

⁴Cleveland Hospital and Health Survey—Part IX, Nursing. Published by the Cleveland Hospital Council, 308 Ansfield Building, Cleveland, Ohio.

similar study of their educational systems. It is a most encouraging sign to find those responsible for nursing schools asking for help in analyzing their defects, and doubtless the publicity given to such surveys will do much to stimulate improvement.

ORGANIZED PUBLICITY FOR NURSING SCHOOLS.

This is another interesting movement which has come about as a result of the lack of students in nursing schools. Nursing organizations have been carrying on for some years an intermittent campaign of publicity to interest high-school and college women in nursing. The funds available were, however, very small, and no special workers were employed to organize the work and develop it systematically. The war-time publicity campaign for student nurses was the first to be organized on any large scale, and its effectiveness was probably due in large measure to the war appeal. The American Red Cross has given valuable assistance in the recruiting of student nurses and has recently sent out special instructions to its chapters and special literature focusing attention on this as the biggest present issue in the development of the Red Cross peace-time program.

The centennial of Florence Nightingale's birth, which came May 12, 1920, has been used very effectively by nursing schools and by all these other organizations to awaken interest in nursing and to recall some of the foundation principles of nursing education which Miss Nightingale established. Plays, pageants, sermons, articles, books, calendars, and moving pictures have all been prepared with this idea in view.

Of distinct educational value have also been the organizations of groups of hospitals for the purpose of carrying on a systematic, business-like campaign for student nurses. The largest of these was formed in 1919 by some of the hospitals in Chicago and called the Central Council of Nursing Education. The working forces have been composed mainly of women members of the boards of trustees and nurses, but men and women, students, graduates, physicians, and influential citizens, have all cooperated in the movement. An effort has been made from the beginning to put the campaign on a sound educational basis. Standards of membership were laid down, and hospitals meeting such standards were invited to join, paying a fee of \$500 a year. A secretary was appointed, literature was prepared and distributed widely, addresses were given, and every modern method of publicity was utilized to reach young women of the right type and interest them in nursing. The work has spread from the city of Chicago to the State of Illinois and to several surrounding States, and results have been quite encouraging. Hospitals in New York and surrounding States have recently organized an

Eastern Council of Nursing Education on much the same plan. Somewhat similar campaigns of publicity have been carried on in the State of Michigan, in Connecticut, and in other parts of the country.

FINANCIAL SUPPORT FOR NURSING SCHOOLS.

While all these things are encouraging, they leave the fundamental weaknesses in the educational system untouched. The plain facts are that nursing schools are being starved and always have been starved for lack of funds to build up any kind of substantial educational structure.⁵ As some one has recently said, the nursing school has been literally buried in the hospital, and few people have been aware of its existence. It has fed on the crumbs that fell from the hospital table—a very frugal table, as everyone knows. The educational interests of the school have had no chance whatever against the pressing economic interests of the hospital, and it is probable that even if the hospital recognized its educational obligations, which it has never done, it would find considerable difficulty in meeting them as they should be met.

The inevitable conclusion is that there is no hope for any substantial advancement in nursing education until the nursing school can be lifted out of the hospital and placed on its own feet. This does not mean that pupils should not be trained in hospital wards, but that the nursing school, like the medical school, should have an independent financial status and the power to work out its own system of education, unhampered by the complicated and often crushing demands of the hospital. If this is to be done, some form of endowment must be found for nursing schools, or they must be supported by State or municipal funds. Up to the present time there have been no large gifts or endowments for nursing education in this country, apart from Mrs. Helen Hartley Jenkins's gift to the nursing and health department of Teachers College, Columbia University. It is time that the public should realize the great need in this country for funds to develop nursing education and should give as freely to this as they do to other forms of educational work.

The first step in the direction of endowment for nursing schools has been taken by nurses themselves. The alumnae of Johns Hopkins Training School for Nurses have recently launched a campaign for one million dollars to endow their mother school.⁶ The contribution which such an endowed school can make to nursing education is a great end in itself, but beyond that is the opportunity to drive into

⁵ See pamphlet entitled, "A Sounder Economic Basis for Training Schools for Nurses," by M. Adelaide Nutting. Secured from National Nursing Headquarters, 370 Seventh Avenue, New York City.

⁶ Literature may be obtained from the endowment fund committee, Johns Hopkins Hospital, Baltimore, Md.

the public consciousness the need for adequate financial support for all nursing schools.

REACTIONARY MOVEMENTS.

In spite of poverty and all the difficulties inherent in the system of training, the leaders in nursing education have been driven on in their efforts to better conditions, because they knew just what it meant to expose sick people to the care of ignorant and untrained nurses. Some of them had struggled with the dirt and disorder and the unspeakable moral conditions of the old hospitals as they existed less than 50 years ago, when modern nursing was first introduced into this country. This has made them uncompromising in their fight to uphold such standards as had already been established in nursing education. The progressive element in nursing has always been supported by the more forward-looking members of the medical profession, but there have always been strong reactionary forces at work pulling down what they have built up. Some influential commercial interests have been steady and unscrupulous opponents, and, unfortunately, there have also been a number of medical men working against what they have called the "overtraining of nurses." These physicians are not, as a rule, representative men in their profession, but they are often politically powerful and their opinions carry quite undue weight with the general public. The temporary scarcity of nurses during the influenza epidemic brought this opposition into prominence again. It was claimed that the trained nurse was too expensive, and that what was needed was a domestic type of worker who would do the work of the home and care for the sick patient as well at a small wage. It was urged that such workers needed little preliminary education and a very brief training, a few weeks or months being sufficient to qualify them for the care of the sick. Efforts have been made to compel existing schools to reduce their own standards of admission and training. Finally, a continuous campaign of newspaper publicity has been used to prejudice the public against professional nurses and all existing standards of nursing education.

While the avowed purpose of the whole agitation has been to supply nurses for people of limited incomes, there is no evidence that this result has been achieved. The semitrained or untrained worker seems to be charging practically the same rates as the trained nurse; so the public is getting a distinctly inferior type of service at little, if any, reduction in cost.

The worst feature of the whole situation is that the women who are being brought into the field and usurping the name of nurses are discouraging better women from entering the profession. They are a menace to the sick, because they assume responsibilities they

are in no way fitted to carry, and they create a false sense of confidence in both doctors and patients, who have learned to rely upon the skill and experience of the trained nurse and do not realize the untrustworthiness of this counterfeit variety. In some cities thousands of these so-called nurses have been foisted upon the public.

SOME NEW EDUCATIONAL MEASURES TO MEET THE PRESENT SITUATION.

While the nursing profession is united in opposing the introduction of short courses for the training of nurses, it has been working out plans for supplementing the services of nurses in several ways.

One of these is through the wide distribution of home nursing classes to help mothers and sisters in the home in caring for mild and chronic conditions of illness that occur in all families. The American Red Cross now employs over 1,800 teachers to carry on this kind of educational work, and efforts are being made to carry such teaching into high schools as well as to all other groups of girls and women in communities.

The extension of visiting nurses' associations and the training of more public-health nurses are probably the most effective means of distributing skilled nursing service over a large population. The price of such service is within the reach of any family, and although it is not a continuous service, it can usually be supplemented by an intelligent member of the family who works under the instruction of the trained nurse. The rapid growth of such associations and the introduction of various forms of sickness insurance seem to give the greatest promise of meeting the needs of those who can not afford the full-time service of the private nurse and can not go to a hospital. Nothing could be more disastrous than to accept the idea that there should be a special kind of cheap nurse for poor people, even if any kind of cheap service of this exacting kind could be found. Where so much depends on health and rapid recovery, the poor nurse or poor doctor is the most expensive and the most dangerous substitute for skilled care, and some other solution must be found for the problem of serious illness in homes of lower incomes.

There seems to be a place, however, for a different type of worker who, though not prepared to care for acutely ill patients, may be intrusted with chronically or mildly ill patients or with convalescents. Such workers have been employed for years as attendants in institutions for incurables and for mental and tuberculosis patients. They have been also used to supplement the work of trained nurses in some visiting nurses' associations. Many people feel that such workers, properly trained for their duties and given a distinguished
selec
high
uld be employed more generally for carefully
ivate homes and at a smaller fee than the more
responsible nurse requires and fully earns.

Although former experiments in the training of attendants have not been very encouraging, nurses' organizations are prepared to see what can be done by extending the present courses for attendants somewhat and giving a good practical training of about 9 months in certain selected institutions, limiting the scope of the work strictly to the duties which attendants can safely be intrusted with. Already several States have enacted laws providing for the licensing of this group and giving them a special function and a dignified status among the great variety of workers now required for the care of the sick. This is frankly an experiment, and it is possible that the only result will be to further multiply the numbers of inadequately trained pseudo-nurses who trade on the ignorance and helplessness of the public. In any case it is an honest effort to decrease the cost of sickness to the public without at the same time endangering the lives of those who are acutely ill.

THE FUTURE.

No thoughtful person who studies the situation in nursing education to-day could fail to be deeply concerned by the many difficult and critical questions which are waiting to be solved. To those who have been watching closely the signs of the times there are many evidences that the old apprenticeship system which has served us as a system of nursing education for the past half century is beginning to break down and that fundamental reforms will have to be introduced to enable nursing schools to keep going, still more to keep pace with the rapidly advancing needs of this new day.

The superintendents and teachers of nursing schools who have struggled along all these years with the old system are becoming discouraged and in many cases going into other fields. It is more and more difficult to induce able women to take positions in the average type of hospital where there is so little hope of being able to work out the most reasonable educational standards. Few have ever lost faith, however, in the essential value of the work itself or in certain features of the educational system which are unquestionably strong and sound. With certain basic changes it could be brought in line with the most modern ideas of education and could, indeed, lead the way toward an all-round training such as few other professions could offer to the modern young woman.

The greatest hope of the future lies in the direction of independent endowments and in the closer association of nursing schools with universities or higher technical schools. The next few years will undoubtedly see substantial developments along both these lines and the gradual evolution of nursing schools out of the apprenticeship stage into that of independent, self-governing, professional schools.

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HIGHER EDUCATION

1918-1920

By

GEORGE F. ZOOK
SPECIALIST IN HIGHER EDUCATION
BUREAU OF EDUCATION

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HIGHER EDUCATION.

BY GEORGE F. ZOOK.

Specialist in Higher Education, Bureau of Education.

CONTENTS.—Standardizing agencies—Bills in Congress touching higher education—University surveys and the survey movement—Three years of attendance at 250 colleges and universities, 1916-17 to 1919-20—Salaries at colleges and universities—Private benefactions to colleges and universities—The junior college—Cooperation between industry and higher institutions—Education in the American expeditionary forces after the armistice—College credit for military service—Reserve Officers' Training Corps—Educational concessions to children of Army officers and enlisted men—The Carnegie pension and insurance schemes—The place and function of faculties in university government and administration—General intelligence tests—The National Research Council—Report of the Carnegie Foundation for the Advancement of Teaching on teacher training—Requirements for the doctor's degree—The Harvard Graduate School of Education—The American Council on Education—The Institute of International Education—International fellowships and scholarships—International educational conferences—The American University Union in Europe.

STANDARDIZING AGENCIES.

NON-STATE ACCREDITING AND EXAMINING BOARDS.

Nearly every State in the Union, through the State university or the State board of education, has, after inspection, accredited secondary schools located within its borders. A number of them have also published lists of accredited higher institutions. Naturally there is considerable diversity of practice among the several States, and hence, in the interests of uniformity, various voluntary associations composed of representatives from higher institutions and secondary schools have undertaken the work of standardizing schools and colleges. The College Entrance Examination Board serves those higher institutions which prefer to admit students only by examination, and students who wish to secure admission to college by examination.

THE COLLEGE ENTRANCE EXAMINATION BOARD.

The total number of candidates examined by the College Entrance Examination Board in June, 1919, was 12,716, as against 10,641 in the previous year. The secretary's report states that 1,327 schools sent candidates to the board's examinations in 1919. Of these, 722 were public schools and 605 private schools, from which there were 4,692 and 7,480 candidates, respectively. In addition there were 544 candidates who were either conditioned college students, or pre-

pared by private tutors, or self-prepared, or who neglected to give the information called for by the board's form of application for examination.

The secretary's report also shows that there was an increase over the previous year of 615 in the number of boys and of 1,560 in the number of girls who took the board's examination. It is interesting to note that in the number of boys from the private schools there was an increase of 590, and from the public schools a decrease of 74; and that in the number of girls from the private schools there was an increase of 716 and from the public schools an increase of 690. The increase in the number of girls taking the examination is doubtless due in considerable part to the return to the examination system of Mount Holyoke, Smith, and Wellesley Colleges.

The following table indicates the general distribution of the candidates in respect to residence, secondary school, and college:

General classification of candidates.

	Residence.	School.	College.
New England.....	5, 204	6, 657	8, 367
Middle States.....	4, 689	3, 884	3, 034
Southern Division.....	749	600	51
North Central Division.....	1, 647	1, 052	81
Western Division.....	300	196	54
Not stated and irregular.....	127	327	1, 129
Total.....	12, 716	12, 716	12, 716

A table of considerable interest has been compiled by the secretary of the College Entrance Examination Board for the decade from 1910 to 1920. It shows the number of examination books which have been graded in each subject and the percentage of them which were rated 60 per cent or above:

Subject.	Number of answer books.	Percentage of books rated 60-100.
Greek.....	8, 048	66. 1
French.....	31, 602	61. 9
Latin.....	71, 496	58. 1
Physics.....	11, 079	54. 9
Chemistry.....	6, 441	52. 1
Mathematics.....	78, 232	51. 1
German.....	23, 207	49. 7
English.....	44, 136	45. 2
History.....	28, 536	35. 9
All subjects.....	307, 865	52. 3

Several explanations may be offered for the marked difference in the percentage of students who pass the respective examinations. Some subjects may be better taught than others or there may be a marked difference in the degree of difficulty to master various subjects. The average grades of the history examinations have, however, been so low for a number of years that it was decided at the meeting of the board in April, 1920, to appoint a special committee to re-examine the content of the history requirements.

The new comprehensive examination plan is fast increasing in popularity. The number of candidates seeking admission by this plan increased from 752 in 1918 to 1,969 in 1919. Thirty colleges and universities were designated by candidates for admission under the new plan. Young women, particularly, prefer to take the comprehensive examination, as seems clear from the number who took the new plan examinations for admission to the following higher institutions: Wellesley, 417; Smith, 375; Harvard, 305; Vassar, 251; Mount Holyoke, 171; Yale, 129; Princeton, 82; Radcliffe, 73; Barnard, 55; Wells, 32.

In the list of subjects which new plan candidates elect for examination, English, mathematics, Latin, and French are the most popular. History, German, chemistry, and physics follow in the order named.

THE NEW ENGLAND COLLEGE ENTRANCE CERTIFICATE BOARD.

The eighteenth annual report of the New England College Entrance Certificate Board states that the total number of schools which had the certificate privilege in 1919 from the board was 571, of which 92 had the specimen certificate privilege. Of these 340 (about 60 per cent, as against 76 per cent last year) sent one or more pupils on certificate to the colleges represented on the board.

At the present time there are 38 schools on the trial list, and 443 on the fully approved list, making a total of 481. To these may be added 98 schools that have the right of sending specimen students on certificate, making a grand total of 579 schools that have the certificate privilege from the board for the year 1920.

The following institutions compose the membership of the New England College Entrance Certificate Board: Amherst College, Bates College, Boston University, Bowdoin College, Brown University, Colby College, Massachusetts Agricultural College, Middlebury College, Tufts College, Wesleyan University, and Williams College.

In 1919 the University of Vermont withdrew from the board in order to maintain closer relations with the Vermont State system of education, and Mount Holyoke, Smith, and Wellesley Colleges withdrew on account of their decision to give up the certificate system of admission.

THE NORTH CENTRAL ASSOCIATION OF COLLEGES AND SECONDARY SCHOOLS.

In the proceedings of the North Central Association of Colleges and Secondary Schools for 1920 the secretary reports 128 accredited colleges and universities. Six of these institutions were added during 1919 and three in 1920, after having been inspected by representatives of the association. In addition to these institutions the association has accredited 45 institutions primarily for the training of teachers, and 15 junior colleges. The number of accredited secondary schools was 1,353.

THE ASSOCIATION OF COLLEGES AND PREPARATORY SCHOOLS OF THE MIDDLE STATES AND MARYLAND.

The Association of Colleges and Preparatory Schools of the Middle States and Maryland reported for 1919 a membership of 220, of which 65 were colleges and universities.

A commission on institutions of higher education, composed of 14 members, was appointed to adopt from time to time lists of accepted institutions of higher learning which meet the standards recently established by the association.

THE ASSOCIATION OF COLLEGES AND SECONDARY SCHOOLS OF THE SOUTHERN STATES.

The Association of Colleges and Secondary Schools of the Southern States reported for 1919 a membership of 44 universities and colleges and 43 secondary schools. Besides these, there were 18 individual members. The association has accredited 418 secondary schools.

THE MOVEMENT FOR THE STANDARDIZATION OF COLLEGES AND UNIVERSITIES.

At its annual meeting, November 28 and 29, 1919, the Association of Colleges and Preparatory Schools of the Middle States and Maryland adopted a series of standards for colleges identical with those adopted a few years ago by the Association of Colleges of New York State and since adopted by the regents of the State of New York as the official definition of that State. These standards are as follows:

DEFINITION AND STANDARDS.

An institution to be ranked as a college of liberal arts must have at least eight professors giving their entire time to instruction therein; must require for admission not less than four years of academic or high-school preparation, or its equivalent; must conduct a curriculum of four full years of approved grade in liberal arts and sciences.

It is recommended that in interpreting this definition the following standards should be employed with due regard to the fact that an institution falling below the desired standard in certain particulars may more than make good this lack by excellence in others.

1. A college year should include for each student not less than 34 weeks of actual work, of not less than 15 full periods per week of academic work or the equivalent.

2. Members of the teaching staff in regular charge of classes should have had not less than one year of graduate study, and a majority of them should have had training equivalent to that presupposed by the degree of doctor of philosophy; in all cases efficiency in teaching as well as the amount of research should be taken into account.

3. A preponderance of the teachers who have independent charge of classes should be of professorial rank.

4. The number of periods per week of teaching, for each instructor, should not exceed 16.

5. The curriculum should provide both for breadth of study and for concentration.

6. The curriculum should have justifiable relation to the resources of the institution.

7. There should be library and laboratory facilities adequate to the work which the institution announces, and these should be kept up to their full efficiency by means of adequate annual expenditures.

8. There should be a minimum productive endowment, beyond all indebtedness, of at least \$500,000. In the case of tax-supported institutions or those maintained by religious or other organizations, financial support or contributed services equivalent in value to the endowment specified are substitutes.

NOTE.—For the present the application of this principle will not be strictly made in the case of institutions which otherwise fulfill the requirements, but such institutions will be expected to increase the amount of their productive endowment to the sum indicated at the earliest possible date.

9. Salaries paid the members of the teaching staff should be adequate. The minimum will depend upon the local cost of living as well as upon other factors.

10. In administering entrance requirements, exceptions should be few and made only for reasons of great weight.

11. The records of the graduates of the college in graduate and professional schools should be satisfactory.

In the Association of Colleges and Secondary Schools of the Southern States, the commission on institutions of higher education, which was appointed in accordance with resolutions passed in 1917, presented a set of standards for colleges which the association adopted December 5, 1919. These standards are as follows:

1. *Entrance requirements.*—The entrance requirements shall be at least 15 standard units, as defined in the by-laws of the association, with two conditions allowed; but beginning with 1921 the entrance requirements shall be the completion of a four-year course of at least 15 units in an officially accredited school, or its equivalent as shown by examinations.

2. *Requirements for graduation.*—The completion of college work amounting to at least 15 sixty-minute class periods per week through four sessions of 34 weeks each, excluding holidays, but including the examination periods.

3. *Number of degrees.*—The conferring of a multiplicity of degrees should be discouraged. Small institutions should confine themselves to one or two. When more than one baccalaureate degree is offered all should be equal in requirements for admission and for graduation.

4. *Number of college departments.*—The college should maintain at least eight separate departments in liberal arts and sciences with at least one professor devoting his whole time to each department.

5. *Training of the faculty.*—A properly qualified faculty should consist entirely of graduates of standard colleges and each head of a department should

hold at least a master's degree from a university having a fully organized graduate school. Graduate study and training in research equivalent to that required for the Ph. D. degree are urgently recommended, but the teacher's success is to be determined by the efficiency of his teaching as well as by his research work.

6. *Salaries.*—The average salary paid to members of the faculty is an important consideration in determining the standing of an institution. It is recommended that the salary of a full professor be not less than \$2,000.

7. *Number of classroom hours for teachers.*—Fifteen hours per week are recommended as the maximum for teachers, but in no case shall teachers be required to give instruction for more than 18 hours.

8. *Number of students in classes.*—The number of students in a recitation or laboratory section should be limited to 30. A smaller number is desirable.

9. *Support.*—In addition to income from tuition fees, room rent, boarding halls, etc., the college, if non-tax supported, should have a productive endowment of not less than \$300,000, and, if tax-supported, should receive an annual income of not less than \$50,000.

10. *Library.*—The library should contain, exclusive of periodicals and public documents, at least 7,000 volumes bearing specifically upon the subjects taught, and should have an adequate annual appropriation for permanent additions.

11. *Laboratories.*—The laboratory equipment should be adequate for all experiments called for by the courses offered in the sciences, and these facilities should be kept up by means of an adequate annual appropriation.

12. *Separation of college and preparatory school.*—The college may not maintain a preparatory school as part of its college organization. In case such a school is maintained under the college charter, it must be kept rigidly distinct and separate from the college in students, faculty, and buildings.

13. *Proportion of regular college students to the whole student body.*—At least 75 per cent of the students in a college should be pursuing courses leading to baccalaureate degrees in arts and science. The classification of students must be printed in the catalogue.

14. *General statement concerning material equipment.*—The location and construction of the buildings, the lighting, heating, and ventilation of the rooms, the nature of the laboratories, corridors, closets, water supply, school furniture, apparatus, and methods of cleaning shall be such as to insure hygienic conditions for both students and teachers.

15. *General statement concerning curriculum and spirit of administration.*—The character of the curriculum, the efficiency of instruction, the scientific spirit, the standard for regular degrees, the conservatism in granting honorary degrees, and the tone of the institution shall also be factors in determining its standing.

16. *Standing in the educational world.*—The institution must be able to prepare its students to enter recognized graduate schools as candidates for advanced degrees, such preparation to be shown by the acceptable standing of its students in such graduate schools.

17. *Professional or technical departments.*—When an institution has, in addition to the college of liberal arts, professional or technical departments, the college of liberal arts shall not be accepted for the approved list of the association unless the professional or technical departments are of acceptable and approved grade.

18. *Blank to be filed triennially.*—No institution shall be approved or retained on the approved list unless a regular blank has been filed with the commission. The said blank shall be filed triennially unless the commission has waived its presentation.

NATIONAL CONFERENCE COMMITTEE ON STANDARDS OF COLLEGES AND SECONDARY SCHOOLS.

At its annual meeting, March 24, 1919, the National Conference Committee on Standards of Colleges and Secondary Schools adopted the following definition of a college:

A "college" is an institution requiring for admission graduation from a standard secondary school or the equivalent, and offering a four-year curriculum leading to the first degree in arts or science.

In order properly to perform its educational functions, a college should, in the judgment of the committee, have at least:

1. A requirement for admission of 15 units of secondary work, not more than two units of condition being allowed, all special students under 21 years of age being required, except in rare and unusual circumstances, to meet all the requirements for admission, preparatory courses, if any, being distinct in faculty, students, and discipline.

2. A program of studies having a reasonable relation to the resources of the institution.

3. A liberal curriculum, with advanced work in several fields, and a reasonable margin for free election, the curriculum to be of such a character as to qualify for admission to a graduate school of recognized standing.

4. A college year of 32 weeks of actual instruction.

5. Eight departments, each having at least one full-time teacher of professorial rank.

6. A staff, two-thirds of which are of professorial rank, having had at least two years of study in a graduate school of recognized standing, receiving salaries of \$2,000 a year or more, and teaching not more than 16 hours a week.

7. A productive endowment, beyond all indebtedness, of \$300,000.

8. An annual income for current expenses of \$40,000 a year, at least three-fifths of which is expended for instruction.

9. An expenditure of \$1,000 a year for laboratory equipment and apparatus, and of \$1,000 a year for books and periodicals.

10. An annual or biennial published report of assets, income, expenditure, faculty, curricula, and student body.

The difference between the standards set up by these associations and those established several years ago by the North Central Association vary considerably. The North Central Association requires 15 units of high school preparation for entrance to college; it urgently recommends training equivalent to that required for the Ph. D.; it makes no recommendation concerning the majority of teachers being of professorial rank; it recommends 15 hours of teaching as a maximum, with a prohibition of more than 18; it provides for shaping the last two years of college in the direction of special professional and university instruction; it establishes \$200,000 as a minimum of productive endowment; it makes no statement concerning adequate salaries for the teaching staff, numbers of degrees granted, or entrance requirements; and it establishes a minimum registration of 100 students. No mention is made of this last subject by either of the other associations.

This statement of differences existing between the standards of three associations reemphasizes an unfortunate condition in our

higher education. Since the Bureau of Education has been precluded from establishing standards for higher institutions, it is highly desirable that the various voluntary associations which have done this work with signal success during the last few years should establish common standards and in accordance with them proceed to the work of accrediting colleges and universities. By this means it would at last be possible to secure a dependable list of colleges and universities which fulfill uniform standards.

At the annual meeting in 1920 the national conference committee approved the following statement concerning the items which should be considered "current expenses" in estimating the cost of college instruction:

Expenses are usually classified according to the permanent or temporary character of that for which the money is paid; income and expenditure accounts dealing primarily with day-by-day operations, assets and liabilities accounts with permanent resources, capital, and investment.

Current expenses of a college are thus those providing for administration; care and operation of the physical plant; the cost of instruction; provision for student welfare; supplies that disappear in the using.

Administration may be divided into academic and business, including legal expenses, but both are current.

Plant depreciation is counted as current expense by many accountants.

Cost of instruction includes chapel, gymnasium, library, special lectures and the like, as well as teaching. Money paid out for fellowships, scholarships, and prizes, and for student help, is current expense, even though some or most of it be returned in the form of tuition. The annual excess of loans from loan funds over the amount returned might be counted similarly.

Student welfare includes health service, food, and lodging, but it is well to separate the cost of the last two from other accounts and include deficits only in general current expense.

Supplies used in laboratories and the like are current expenses even though paid for by special fees.

Current expenses do not include additions to endowment and to permanent plant, or temporary expenses in supervising permanent construction or in investing endowment.

UNIVERSITY SURVEYS AND THE SURVEY MOVEMENT.

During the last six years the Bureau of Education, by invitation, has conducted surveys of the publicly supported institutions of higher learning in nine States and in Hawaii. The purpose of these surveys has been to set forth the needs of the respective States in higher education and to make suggestions as to what reorganization of administration in the State's system of higher education appeared to be desirable in order to meet these needs. On the whole, the surveys have been welcomed as the expert opinion of impartial observers, and, as a result, unnecessary duplication of effort at two or more higher institutions supported by the State has been greatly reduced or eliminated. Furthermore, with the facts thus made more

available the State institutions have been able to go before their constituents with more convincing pleas for adequate financial support. The surveys have resulted in strengthening the faith of the people in their colleges and universities.

Two surveys have been made during the period of the biennium just closed. The survey in Alabama, from the 11th of March to the 31st of May, 1919, was the first to be conducted in the higher institutions in the Southern States. It was in charge of Dr. Samuel P. Capen, specialist in higher education, Bureau of Education, assisted by Dr. C. D. Jarvis, specialist in agricultural education, Bureau of Education; Dr. W. C. John, specialist in land-grant college statistics, Bureau of Education; and Mr. J. J. Pettijohn, director of the extension division, Bureau of Education. The survey disclosed among the higher institutions in that State considerable duplication of effort, together with low State appropriations for higher education. A summary of the chief recommendations made to the State commission is as follows:

A feature of the Alabama situation which deserves especial attention, not only in that State but in all Southern States, is the condition of the Negro land-grant colleges. In each of the Southern States, as a result of the Morrill Act, two institutions, one for whites and one for Negroes, were founded. The money appropriated by the Federal statutes has been divided between these two institutions. In the case of the white institutions, the State legislatures have appropriated more or less liberal supplementary funds, but the amount appropriated to the Negro institutions has in nearly every instance been so meager that they have been able to make little progress and are not filling the need of higher education among the colored people. The following table shows the source and amount of revenue secured by the Negro land-grant colleges for the year 1918-19:

Total income of Negro land-grant colleges, 1918-19.

	Federal fund.	State fund.	Private fund.	Total income.
Agricultural and Mechanical College for Negroes, Ala...	\$21,550.00	\$4,000.00	\$4,335.45	\$29,885.45
Branch Normal College, Ark.....	13,636.36	43,000.00	1,976.18	58,612.54
State College for Colored Students, Del.....	10,000.00	26,500.00	13,566.88	50,066.88
Florida Agricultural and Mechanical College for Negroes.	25,000.00	11,000.00	59,133.78	70,133.78
Georgia State Industrial College.....	16,666.66	10,796.00	3,843.43	31,306.75
Kentucky Normal and Industrial Institute.....	8,505.50	28,000.00	21,318.78	57,824.28
Southern University and Agricultural and Mechanical College, La.....	22,386.25	16,500.00	34,121.06	43,770.14
Princess Anne Academy, Md.....	10,000.00	7,500.00	12,700.00	30,200.54
Alcorn Agricultural and Mechanical College, Miss.....	39,861.54	8,000.00	24,970.40	42,831.94
Lincoln Institute, Mo.....				
Negro Agricultural and Technical College, N. C.....	16,500.00	22,500.00	27,485.00	56,485.00
Colored Agricultural and Normal University, Okla.....	1,000.00	41,497.00	26,114.03	58,611.03
State Agricultural and Mechanical College, S. C.....	25,000.00	68,209.62	9,383.00	108,346.62
Tennessee Agricultural and Industrial State Normal School.....	12,000.00	28,966.46	34,126.95	75,092.46
Prairie View State Normal and Industrial College, Tex.	12,500.00	87,730.00	122,668.02	222,898.02
Hampton Normal and Agricultural Institute, Va.....	26,996.02	1,000.00	514,712.13	542,708.15
West Virginia Collegiate Institute.....	10,000.00	51,850.00	27,444.91	89,294.91

HAWAII SURVEY.

The survey of the school system of Hawaii was carried out by representatives of the Bureau of Education during the period from October 1, 1919, to February 1, 1920. President Parke R. Kolbe, of the University of Akron, was responsible for the investigation of higher education.

Unlike a number of States, the situation in higher education in Hawaii is not complicated by the presence of two or more higher institutions each supported by public funds. There has been only one higher institution, the College of Hawaii, which was founded in 1907, under the provisions of the Morrill Act, as a land-grant institution. In response to a well-defined public demand, the Territorial Legislature in 1920 created the University of Hawaii, including a college of arts and sciences. The occasion for the change was the fact that a college devoted to the usual curricula of a land-grant institution was unable to meet a sufficient number of the needs of students residing in the islands. Partly for this reason, out of the 393 students in Hawaii who, during the last 10 years, have attended institutions of higher learning, only 113, or 29 per cent, have gone to the College of Hawaii. The others have matriculated at various universities in the States, principally in the University of California, Leland Stanford, Harvard, Yale, and Cornell.

Another cause for this situation is the fact that many Americans have close attachments in the States, and they are anxious to give their sons and daughters the benefit of higher education on the mainland. These persons are also largely responsible for the establishment of several private academies from which as yet have come the great majority of students who go to college.

A feature of some interest in this survey was the unusually large per capita expense of the education given at the College of Hawaii. This per capita expense is much greater than that found at any of the higher institutions investigated by the Bureau of Education on the mainland.¹ This situation may doubtless be attributed to the small number of students attending the College of Hawaii and to the increasing cost of higher education in recent years. Nevertheless, with a growing student body the per capita cost is being steadily reduced.

THREE YEARS OF ATTENDANCE AT 250 COLLEGES AND UNIVERSITIES, 1916-17 TO 1919-20.

In November, 1919, the Bureau of Education sent out a circular requesting the enrollment at colleges and universities for the years 1916-17 and 1919-20, respectively. Two hundred and fifty institu-

¹ This amount varies from \$103.54 per capita at the Alabama Girls' Technical Institute in 1916-17 to \$564.32 per capita at the South Dakota State School of Mines. The median amount per capita is about \$211.

tions, not quite half the total number in the United States, responded. However, the answers represent institutions of all types, large and small, State and private; and although the figures are not complete, they undoubtedly indicate the emergency that the country faces in higher education. The total attendance at these 250 institutions in 1916-17 (the year immediately preceding the war) was 149,533; in 1919-20, 186,864, which is an increase of 25 per cent. As is well known, by far the greatest proportion of this increase was in the freshman class last year. The freshman class in the public institutions exceeded the freshman class of three years ago by 61.82 per cent; in the private institutions by 33.5 per cent; the general average being 46.1 per cent, as against an average increase of but 6.7 per cent in the senior class during the three years. In 88 of the 250 institutions the senior class was reported as being smaller than it was three years ago. Only 34 of them, however, reported a smaller freshman class.

It is interesting to notice the distribution of the increased attendance among the small and large institutions, respectively. Institutions with an enrollment of less than 250 in 1910 increased 38 per cent; those from 250 to 499, 20.2 per cent; those from 500 to 999, 14.5 per cent; those from 1,000 to 1,999, 22.5 per cent; and those of 2,000 or over, 29.4 per cent. The smallest institutions are therefore making the most rapid strides in increased enrollments, while the largest come second. The institutions which previously enrolled from 500 to 1,000 students are growing at the slowest rate.

Since the increase in student attendance at colleges and universities has been tremendous both before and after the war, it may be assumed that the causes are not ephemeral; they are deep and abiding. To be sure, it often seems to professors that an increasing proportion of students are coming to college for no particular purpose except that it is regarded as the fashionable thing to do. On the other hand, there is every evidence that the number of young men and young women who realize that they need a thorough and extended education before they may expect to rise to coveted positions is growing tremendously. In a vague and indefinite way they appreciate the increasing complexity of our modern economic life, with its growing demand for persons with specialized training in every branch of activity. In practical affairs the demand is quite definite and the character of the work is concrete, both of which appeal to the imagination of young men and women entering institutions of higher learning. There seems every reason, therefore, why we may assume that the present tremendous increase in the number of students seeking the advantages of higher education will continue unabated for many years to come.

What shall be done to meet the emergency in higher education? There is only one thing that can be done, and that is to devote to the needs of colleges and universities funds, both public and private, the size of which were never dreamed of a few years ago.

SALARIES AT COLLEGES AND UNIVERSITIES.

One of the most unfortunate results of the war in the educational world has been the inadequate salaries with which teachers have been compelled to face the mounting cost of living. The problem has been present in the higher institutions as well as in the elementary and secondary schools. In the autumn of 1919 the Bureau of Education gathered complete figures concerning salaries from more than two-thirds of the higher institutions. The results of this inquiry are shown in the following table:

Salaries at colleges and universities.

PUBLIC INSTITUTIONS.

Title of position.	Number of persons.	Minimum salary.	Maximum salary.	Average salary.	Median salary.	Most frequent salary.
Professor.....	2,460	\$300	\$10,000	\$3,126	\$3,000	\$3,000
Associate professor.....	822	300	4,000	2,514	2,500	3,000
Assistant professor.....	1,705	500	4,000	2,053	2,000	1,800
Instructor.....	2,138	300	3,100	1,552	1,500	1,500
Assistant.....	855	75	2,500	801	750	1,200

PRIVATE INSTITUTIONS.

Professor.....	3,781	100	10,000	2,304	2,000	1,500
Associate professor.....	357	600	4,500	2,423	2,300	2,000
Assistant professor.....	1,261	75	5,000	1,779	1,800	2,000
Instructor.....	1,810	50	4,000	1,205	1,200	1,200
Assistant.....	574	10	2,000	472	400	500

It thus appears that in the privately supported institutions full professors were receiving on the average \$2,304 per annum, while assistant professors and instructors drew salaries of about \$1,800 and \$1,200, respectively. The average salary, to be sure, in publicly supported institutions is a little higher, but only from \$200 to \$300 for instructors and assistant professors, while full professors at State institutions average only \$3,126.

It is no wonder that comparatively few teachers are being attracted to the field of higher education, or that professors who expected to spend their lives in a teaching career have been induced in large numbers to leave the colleges and universities for more remunerative positions in the business and industrial world.

If we compare the average salaries received by college and university teachers with those received by men engaged in various

trades and manual-labor employments, the results are amazing. For instance, structural-iron workers and railroad-train employees receive more compensation than assistant professors in private institutions and almost as much as those in public institutions. It is more lucrative to be a carpenter or a painter than an instructor in a State institution, while railroad yard employees, machinists, and the lowly hod carriers can look with compassion on instructors in privately supported institutions. Surely it is time for the friends of higher education to demand that the men and women in whose care the best youth of the land are intrusted for four years shall receive a compensation more commensurate with the value of their labor.

At the close of the college year 1919-20 a strenuous effort was made at nearly all higher institutions to increase the salaries of professors and instructors materially. This proved possible to a degree by reason of the successful campaigns for permanent endowments conducted at a large number of privately supported colleges and universities. At some of the State institutions the authorities have been compelled to borrow money in the expectation that the respective State legislatures will later make up the deficit.

PRIVATE BENEFACTIONS TO COLLEGES AND UNIVERSITIES.

The increase in student attendance at colleges and universities, accompanied as it is by rising costs of instruction and maintenance, has placed the privately supported higher institutions in a critical situation. The income from the productive endowments is relatively no longer so valuable as it was formerly, and yet in a few brief years the task with which higher institutions are confronted has increased tremendously. The privately supported colleges have realized this situation and a very large portion of them have instituted campaigns for increased endowments. Information from 317 higher institutions, 15 public and 302 private, reveals the fact that during the biennium covered by this survey the total benefactions received by these institutions were \$138,235,770. Of this amount \$44,608,966 was for current expenses, \$23,951,445 for increase of plant, and \$69,675,359 for increase of endowment.

It should be noted that 84 per cent of the funds devoted to increasing the plant and endowment of higher institutions has been raised in the North Atlantic and North Central divisions of the United States. On the other hand, the figures for the three-year period from 1916 to 1919 show that the rate of growth in student attendance in each of the three remaining divisions is greater than it is in the two just mentioned. In other words, in those regions most needing additions to the endowments of their higher institutions the movement to meet the situation yet lags.

Among the notable increases in endowment during the biennium are the following: Harvard University, \$10,205,045; Massachusetts Institute of Technology, \$5,948,292; University of Chicago, \$4,711,620; Yale University, \$3,025,985; Syracuse University, \$3,000,000; Johns Hopkins University, \$2,746,603.

THE JUNIOR COLLEGE.

The first national conference of representatives from junior colleges assembled at the call of the Commissioner of Education at St. Louis for a two-day session, June 30 and July 1. Thirty representatives from junior colleges located in Texas, Missouri, Michigan, Virginia, Alabama, Arkansas, Minnesota, Iowa, Illinois, and Mississippi responded to the call. The program was subdivided into four divisions: The place and function of junior colleges in the American educational system; the growth and development of the privately supported junior colleges; the development and problems of publicly supported junior colleges; and the curriculum of junior colleges. At the conclusion of the conference a permanent association of junior colleges was effected. The association plans to hold annual meetings hereafter.

The occasion for the conference arose from a variety of reasons. In the first place, the rapid growth of the junior college and of the students attending them made it seem highly desirable that the persons responsible for their administration should confer at some length on the problems confronting them. Furthermore, the recent tremendous growth in the number of students attending all institutions of higher learning indicates the possibility that there will soon become necessary some reorganization of higher education in which junior colleges will be called upon to do an increasing proportion of the work of the freshman and sophomore years for the large universities. Finally, it is becoming increasingly apparent that all students who wish to continue their education after graduation from high school should not be practically required, as at present, to go to a four-year college or university. Many students are either unable or unwilling to attend four-year higher institutions. A large number of them are not well fitted mentally to make the most of a university education. They wish a thorough, but very practical and less extended, type of education. As a prominent dean of a large university said recently, we need a large number of "stopping-off places" in our education above the high school.

The relation between the State universities and a number of junior colleges located within the respective States has been very carefully worked out in Missouri and California. In these two States the junior colleges are largely feeders for the State university, the most of the students from the junior colleges continuing junior and senior

work in arts and sciences at the State university. In Texas two junior colleges have coordinated their work with the State agricultural college. The same thing has been done by one of the junior colleges located in California.

The junior colleges which so far have responded to the demand for a completion school are located chiefly in large cities. For instance, the junior colleges in Detroit, Kansas City, and Chicago are giving technical courses for those students who do not desire to continue their work at large universities. At one of the junior colleges in California a two-year course in agriculture is being given successfully.

The present manifestation of activity on the part of the junior colleges is evidence of the consciousness of the important mission which these institutions will play in the future development of higher education in this country. The overcrowding of the large universities, particularly the State institutions, has raised the question forcefully as to whether it would not be much more convenient and economical both for the State and individual students if the work of the freshman and sophomore years could be done in a number of junior colleges located in various sections of the State. This arrangement would leave the great universities free to develop the technical, professional, and graduate work to much better advantage than is now possible, when so much of the energy of university faculties is consumed in giving instruction, really secondary in character, to freshmen and sophomores.

If some such reorganization of higher education as this is undertaken, an increased number of junior colleges in connection with the public high schools will undoubtedly spring up. In many large cities there is already available all or nearly all the equipment necessary for doing good freshman and sophomore college work.

While the largest field for expansion seems to be with the public junior colleges, junior colleges on private foundation are still more numerous. Many of these were once four-year institutions, but, finding themselves financially unable to do superior work during the whole four-year curriculum, became junior colleges. They have been rewarded by the consciousness of honest work well done, by larger enrollments of students, and freedom from the former financial distress. For such private junior college there is still much room. In 1917-18, 612 higher institutions out of the 672 reported incomes to the Bureau of Education. Of this number 12 reported incomes per student of \$1 to \$49; 66, incomes per student of \$50 to \$99; 82, incomes per student from \$100 to \$149; and 74, incomes per student from \$150 to \$199. It seems perfectly apparent that many, perhaps all, of these 234 institutions would be wise to confine themselves

to the freshman and sophomore years, leaving the more expensive junior and senior work to the larger colleges and universities, which have larger incomes and better faculties. The present increase in the cost of higher education seems to give added weight to this conclusion.

A high quality of instruction is, therefore, a compelling motive in the movement for private junior colleges. If this can be assured, there is no question of the future usefulness of these institutions. The friends of higher education will be glad to welcome them into their circle. The same is true of the public junior colleges. There is a widespread feeling, however, that the administration and methods used in the public junior colleges should really be collegiate and not secondary in character, and that on this account they should be effectively divorced from the secondary schools. With the proper safeguards there is no reason why the work done in the public junior colleges should not be easily the equal of that done in the first two years of our four-year higher institutions.

COOPERATION BETWEEN INDUSTRY AND HIGHER INSTITUTIONS.

On March 26 and 27, 1920, a conference of representatives from various industries and from a number of higher institutions interested particularly in technical education met at Drexel Institute, Philadelphia, Pa., in connection with the annual meeting of the Technology Clubs Associated. The occasion for the conference was the growing appreciation of the need of greater cooperation between industry and higher educational institutions. Industry needs technically trained men. The higher institutions need to know what kind of trained men are desired and in what numbers. The conference was particularly timely in view of the extraordinary demands of industry at the present time, which demands are attributed to a variety of causes: the dropping out of industry of men killed or disabled in the war; the falling off of immigration; and the diminution of the supply of trained men sent out from the colleges during the last few years. At the same time the country is being called upon to supply not only its own increasing wants but those of foreign countries not yet recovered from the war.

Definite information concerning the shortage of trained men was gathered by Dr. Hollis Godfrey, president of Drexel Institute, in a large number of personal visits to important industrial firms during several months prior to the conference. At the conference an attempt was made to prepare as definitely as possible specifications in various fields of industry as to the qualifications of men needed. Discussion and subsequent investigation have further brought out the specific needs of various industries which are to be set forth in printed form for the benefit of the colleges.

In order to carry out this plan of cooperation there has been established a council of management education composed of representatives from industries, which is to act in cooperation with a committee of the American Council on Education as the representative of the higher institutions. The industries will maintain the council of management education which, it is hoped, will become "a clearing house for all industrial and educational matters in the country, to promote the mutual understanding of the mutual problems of industry and the college, and to keep perpetual inventory of the educational needs of industry and the ability of the colleges to meet these needs."

The American Council on Education will review the specifications of the council on management education from the point of view of the higher institutions and circulate them among the colleges and universities of the country.

A feature of especial significance in this plan is to develop a type of education in the higher institutions which will not only familiarize men with the technical side of industrial work but which will also prepare them to assume managerial positions in industry. Work of this nature has been sadly neglected at most technical colleges, and young men of great natural ability have been consistently thrust into particular lines of technical work with little opportunity to rise to positions of responsibility and managership, where their services are often greatly needed. Particularly is this true to-day when prices are rising and economic conditions rapidly changing, with much consequent readjustment of industry. For this reason it is planned to induce as many colleges as will do so to give courses in management education. The work is being developed under Dr. Godfrey's direction, at the Drexel Institute.

Related to this general idea of cooperation between industry and the colleges and universities is the work being undertaken by the Bureau of Education for the development in the schools and colleges of an adequate supply of trained men for the automobile industries, on the one hand, and for the building of highways, on the other.

During the past few years the automobile industry has expanded in a marvelous way, creating an enormous demand for technically trained men in many fields. At the same time the greatly increased volume of passenger cars and motor trucks has made more or less obsolete the older types of roads, which are unable to stand up under the strain of present-day traffic.

Four developments in the field of higher education are essential to the successful solution of the problems raised under these new conditions. Technically trained men are needed in great numbers by the automobile industries. In this field courses in colleges are

already fairly well organized to supply the demand. Courses in business and industrial management are urgently needed by men who look forward to positions of administrative responsibility in the automobile industries. This work is as yet only in its infancy in higher institutions and demands immediate attention. In the new state of freight transportation over highways, research into the relative and comparative costs of motor truck transportation with other types of transportation agencies is essential before the proper limits of motor truck transportation can be defined. This work is now being undertaken by the National Automobile Chamber of Commerce. Finally, under the new highway traffic conditions, it is necessary through research to develop types of roads which will withstand the climatic conditions obtaining in various sections of the country. This field of research is properly one in which the colleges and universities should cooperate with the National Bureau of Public Roads and other agencies for research in this field.

These conditions were brought forcibly to the light in a conference of representatives from higher institutions, the automobile industries, and National and State highway bureaus held on May 14 and 15, 1920, by the Bureau of Education. At this conference it was decided to appoint a permanent committee representing these three fields. Through the efforts of this conference and the permanent committee the needs and qualifications for trained men in these fields have been assembled and will be distributed in bulletin form by the Bureau of Education to the colleges and universities of the country.

EDUCATION IN THE AMERICAN EXPEDITIONARY FORCES AFTER THE ARMISTICE.

It was a number of months after the armistice was signed before it was possible to transport American troops back to the United States. During this time the thoughts of each man in the Army naturally turned to the trade, occupation, or profession which he expected or hoped to pursue after being discharged from the military service. In a large proportion of instances men intended to go back to positions left open and waiting for them in the United States. In other instances, however, the war had definitely severed men from the desire of following their previous occupations and they wished to take up new ones. In either case the necessity or desirability of more adequate preparation for the after-war period appealed to a large proportion of men in the Army. The time which necessarily intervened between the signing of the armistice and the return home offered them a brief opportunity for study and training, if the proper arrangements could be made.

This situation had to a considerable extent been anticipated. Early during the period of America's participation in the war Mr. Anson

Phelps Stokes submitted a memorandum to the War Department outlining a general plan of education for use during the period of demobilization. The plan contemplated the placing of American soldiers at British and French universities and the establishment of schools under the direction of the Army for elementary and vocational education.

That Mr. Stokes's plan was in general practicable had already been demonstrated by the experience of the Army overseas educational commission of the Y. M. C. A. and the committee on education and special training of the War Department. Therefore not long after the cessation of hostilities it was decided to send Brig. Gen. Robert I. Rees to France to take charge of the educational work among the American soldiers.

The Army educational commission which directed the educational work in France, under the general supervision of Brig. Gen. Rees, was composed of Prof. John Erskine, Supt. F. E. Spaulding, and President Kenyon L. Butterfield. These men surrounded themselves with a number of able teachers, a large portion of whom had served previously in the Army overseas educational commission of the Y. M. C. A.

In the post and divisional schools elementary and vocational work predominated. It is perhaps impossible to estimate the number of young men who learned for the first time how to read and write and the number who attended classes where training was given in a large variety of vocations, not to speak of the tremendous number of extension lectures delivered by the vocational specialists who traveled from one division to another.

Facilities for higher education were afforded properly qualified students in British and French universities and at the American Expeditionary Forces University, located at Beaune, in the Côte d'Or. Two thousand and twenty-seven Army students were accommodated at British universities, and about 8,000 at French universities.

Since, however, the resources of the British and French universities were necessarily limited, it at once became imperative, in order to meet the demand, to create a university, which was done with surprising speed. Col. I. L. Rees was made president of the university. Teachers were summoned from the Army, from various civilian employments, and especially from the overseas educational commission of the Y. M. C. A. Many members of the staff had previously been employed as professors and instructors in higher institutions at home, and were consequently very familiar with the work assigned to them. The register of the A. E. F. University gives the following numbers of persons who served on the staff: At Allerey—military, 98; educational corps, 6; total, 105; at Bellevue—military, 18;

civilians, 9; total, 27; at Beaune—military staff, 78; educational staff, 797; total 867; grand total, 999.

The following is a list of the colleges which were established at Beaune, and the number of students registered in each college: Agriculture, 676; arts, 282; business, 1,815; education, 77; engineering, 616; journalism, 138; law, 159; letters, 958; medical science, 144; music, 182; and science, 640; total, 5,685. In addition to these, 338 students were registered at the Art Training Center at Bellevue; 2,353 at the Farm School at Allerey; 705 at the division and post schools at Beaune; and 490 in the short course for teachers; grand total, 9,571. Not included in this number are 6,705 students who enrolled in the College of Correspondence.

No final and complete report of the educational work done overseas during the period of demobilization has been made. That the instruction at Beaune, Allerey, and Bellevue, and the various post and divisional schools was carried on under great difficulties and under circumstances not altogether favorable to extended study is easy to surmise, and is borne out from the testimony of those who were in charge of the work.

COLLEGE CREDIT FOR MILITARY SERVICE.

After the war the problem of what college credit, if any, should be granted to students who had been in military and naval service perplexed the authorities of higher institutions considerably. In some institutions, notably the technical institutes, it was usually decided not to give any academic credit, since the courses of study were usually definitely outlined, and it was the opinion of the authorities that military service could not be regarded as an acceptable substitute for it.

On the other hand, certain higher institutions permitted students to secure a full year of credit if they returned to college before the opening of the second term and if they completed satisfactorily the work of the second and third terms. Other colleges and universities gave a blanket number of semester credits, depending upon the length of time which students spent in the military service.

RESERVE OFFICERS' TRAINING CORPS.

On November 27, 1918, it was decided to reestablish in the schools and higher institutions of the country units of the Reserve Officers' Training Corps, which had been replaced early in the autumn of 1918 by the Students' Army Training Corps. This decision was based on the war-taught lesson that in great national emergencies a sufficient number of officers are not available and can not be trained quickly and thoroughly. It is therefore highly desirable that some

system be adopted whereby, with a minimum of difficulty, expense, and interference with civil life, a considerable number of reserve officers may be available for possible future national emergencies.

While many of these officers will be wanted to fill the usual places in the infantry and artillery, the war emphasized the great need for trained men in the various technical branches so essential to the success of a modern army. The colleges and universities contain a large portion of the capable young men in the country; they possess the necessary equipment for technical instruction; and the requisite military instruction can with comparative ease be added to the curricula. It seems, therefore, as if the higher institutions are the logical sources for the recruiting of reserve officers for the Army.

The authorization for the establishment of the R. O. T. C. units is contained in the National Defense Act of 1916 and the supplementary provisions of the Army Reorganization Act of June 4, 1920. Two types of R. O. T. C. units are provided for, junior and senior. The junior units are all infantry units, located in secondary schools, in which basic military drills and practice form the chief work. The senior units, located in the higher institutions, are composed of infantry, cavalry, field artillery, coast artillery, engineer corps, signal corps, motor transport corps, and ordnance department. Infantry, cavalry, and field artillery units must be composed of at least 100 physically fit students; all other units, 50 each.

At the close of the academic year 1919-20, R. O. T. C. units had been located in 142 colleges and universities. The following is a table of the units and the number enrolled in each of them:

Senior units.		Enrollment.
Infantry -----	119	32, 390
Cavalry -----	10	948
Field artillery -----	20	4, 348
Coast artillery -----	18	2, 687
Engineer corps -----	19	1, 948
Signal corps -----	11	704
Motor transport corps -----	8	461
Ordnance department -----	3	201
Total -----		43, 687

Junior units of the R. O. T. C. have been established in 39 essentially military schools of secondary grade, where the students receive a somewhat larger amount of formal military training than is customary in the colleges and universities. Junior units have also been located in 49 public high schools and 19 private secondary schools. The total enrollment of students in the junior units is 44,777. With the removal in 1920 of the limitation on the number of officers eligible for duty with the R. O. T. C., it becomes practicable to increase materially the number of units located in secondary

schools. During the year just closed a total of 388 officers were located with units of the R. O. T. C. at colleges and secondary schools.

As many of the small colleges do not possess a large amount of technical equipment, it has proved wise to locate infantry units in most of them. In the larger colleges and universities, however, the units have been diversified to suit the needs of the service and the local facilities. The War Department has undertaken to furnish teaching material to those departments giving scientific courses recognized as having military value. This material is in the nature of problems which in addition to their military value are of importance in civil life.

Naturally problems have arisen in the conduct of the R. O. T. C., and a number of conferences have been held between representatives of the War Department and college executives at which the difficulties have been discussed and solutions attempted. For instance, the amount of college credit given for the military courses is left wholly to the colleges. The War Department proposes to prepare a standard set of tests for use in the various units. It has been recognized that the success or failure of R. O. T. C. units depends very largely on the character of the commissioned officers detailed to instruct the students.

It is thought that the maximum number of students who will complete the advanced course (the last two years) of the senior division, and thus become eligible for commissions in the Officers' Reserve Corps, is about 5,000. Inasmuch as the R. O. T. C. has been in active operation but three years, only 982 students completed the advanced course in June, 1920. Of these, 483 were 21 years of age or older, and are eligible for commissions. The number of students who complete the prescribed work of the advanced course and apply for commissions in the Officers' Reserve Corps will, of course, constitute the real test of the R. O. T. C. in the colleges and universities. Only experience will demonstrate the extent to which the R. O. T. C. is meeting this national need.

EDUCATIONAL CONCESSIONS TO CHILDREN OF ARMY OFFICERS AND ENLISTED MEN.

In connection with its studies on the cost of living, Army pay, and the amelioration of the financial difficulties of persons in the military service, the morale branch of the War Plans Division of the General Staff has undertaken to make a special inquiry into the scholarships and special funds which may be available in colleges and universities for use in whole or in part by deserving children of Army officers and enlisted men. The motive of this inquiry arose partly on account of the uncertainty of residence of Army people

and the consequent lack of familiarity which they may have concerning the educational advantages of particular institutions of higher learning. On account of the peculiar conditions, including uncertain residence, to which Army people and their children are subject, a number of colleges and universities expressed themselves as willing to offer exceptional concessions to them. These concessions include free scholarships, opportunities for earning expenses, reductions of fees to the same basis as for legal residents, and loans from student loan funds, which will enable such students to earn all or a large portion of their tuition and living expenses.

The morale branch also secured information from as many Army people as possible concerning the number of young persons desiring to avail themselves of these exceptional advantages and the character of the course of study desired. The information was then made available to those persons in a small bulletin, which included a résumé of the entrance conditions, tuition, fees, cost of living, and courses of study at these colleges and universities.

THE CARNEGIE PENSION AND INSURANCE SCHEMES.

On April 22, 1918, the trustees of the Carnegie Foundation divided the teachers of the associated institutions, admitted to the benefits of the retiring allowance system sustained by the foundation, into three groups:

A. Teachers in the service of associated institutions on November 17, 1915, and who reach the age of 65 on or before June 30, 1923.

B. Teachers who were in the service of associated institutions after November 17, 1915, and who will not have reached the age of 65 on June 30, 1923.

C. Teachers entering the service of associated institutions after November 17, 1915, and participating in the contributory plan of annuities maintained by the Teachers' Insurance and Annuity Association of America.

Arrangements were made to pay to persons in groups A and B retiring allowances, varying in amount according to the average salary received during the five years previous to retirement.

Teachers who enter the service of the associated institutions after November 17, 1915 (the date on which the trustees of the Carnegie Foundation passed resolutions looking toward the adoption of a contributory pension plan), and teachers in institutions admitted in the future to the associated list and who are participants in the contributory plan of annuities maintained by the Teachers' Insurance and Annuity Association of America are eligible to the following privileges:

1. There is no fixed age of retirement, since the teacher holds a deferred annuity contract of which he may avail at such age as may be agreed upon by the teacher and his college.

2. The amount of the retiring allowance is based upon the joint contributions of the teacher and his college and their accumulations.

3. The trustees of the foundation have adopted resolutions which, without imposing a legal obligation upon the foundation, state its intention to provide from its income, if necessary, such amounts as may be required to secure to teachers in the associated colleges and universities an average return of $4\frac{1}{2}$ per cent on the payments made by them to the Teachers' Insurance and Annuity Association of America for the purchase of deferred annuities—said sums to be paid at the time of retirement or in case of death.

4. The foundation will grant to such teachers disability allowances upon the following terms:

(a) Disability shall be interpreted to mean total permanent disability as certified by a medical examiner designated by the foundation.

(b) To be eligible to a disability allowance the teacher must have contributed for not less than five years toward an old age annuity and must have been during this period in active service.

(c) When retired on the ground of disability the teacher will assign his annuity policy to the foundation.

(d) The foundation will provide an annuity of two-thirds the amount the teacher would have obtained if he had continued to age 65 average contributions equal to the average of the five years immediately preceding his disability. The annuity payments will continue for life, or in case of death, until the accumulation to the credit of the teacher has been returned to his estate. Annuity allowances will be limited to a maximum of \$3,000, and are subject to discontinuance in case of the annuitant's recovery of health. In case of such recovery the unexpended portion of the contributions made by and for the teacher and their accumulations will remain to his credit.

(e) This disability benefit will not be available, without further action of the trustees of the foundation, to those entering the associated institutions after January 1, 1938. By that time it is believed that accurate information will be available, so that the disability benefit can be included in the regular annuity contract at a rate approximating its actual cost. This can not be done until such information is secured from the experience of teachers in the matter of disability.

5. These benefits are not applicable to teachers in professional departments whose principal work is outside the profession of teaching.

In these provisions it may be noted that the corporation guarantees a return of not less than $4\frac{1}{2}$ per cent on payments made by the teachers in the associated institutions to the Teachers' Insurance Association. Furthermore, it grants disability allowances after five years of service upon the conditions stated in the rules. The corporation also has provided \$1,000,000, the income from which is available to take care of the overhead expense of the association. Inasmuch as the association has no agents, there are no agency fees to be charged to the overhead expenses.

Other than the connections just mentioned the Teachers' Insurance and Annuity Association is a corporation entirely distinct from the Carnegie Foundation. By the conditions of its charter certain distinctions and discriminations are made between institutions of college or university grade. The Teachers' Insurance and Annuity

Association, on the other hand, is incorporated under the statutes of New York to write insurance and annuity policies suited to the college and university teachers of the three English-speaking countries of North America. It will make no discrimination on account of denominational or State control, nor on account of educational standing.

By January 15, 1920, 29 institutions, 23 of which belonged to the foundation's list of 76 associated institutions, had accepted the plans proposed by the Teachers' Insurance and Annuity Association for the provisions of old-age annuities by the joint cooperation of the teacher and his college. In some of these institutions participation in the old-age annuity on the part of those entering after a certain date will be obligatory to the extent of an agreed minimum. In most institutions, however, participation in the contributory plan is optional.

The basis of participation in the contributory plan which the trustees of the Carnegie Foundation voted to accept from associated institutions, November 20, 1918, is as follows:

(a) Each full-time professor, associate professor, assistant professor, or officer of equivalent rank in the service of associated institutions, who does not enjoy the privileges given under the noncontributory plan now in operation, shall contribute annually in monthly installments 5 per cent of his salary toward an old-age annuity contract in the Teachers' Insurance and Annuity Association. In the case of institutions admitted hereafter to the associated list this requirement shall apply to all professors, associate professors, assistant professors, and officers of equivalent rank admitted to the service of the institution after acceptance of participation in the contributory plan.

(b) Each associated institution shall pay a corresponding 5 per cent in the case of any such contributing professor, associate professor, assistant professor, or officer of equivalent rank, provided that the institution shall be under no obligation to begin its payments before the teacher begins his, or to make annual contributions in excess of those made by him.

(c) Each institution shall make a like contribution in the case of any teacher below the rank of assistant professor who has voluntarily accepted a participation in the contributory plan and who has had not less than three years of service as a teacher in a college, university, or technical school.

THE PLACE AND FUNCTION OF FACULTIES IN UNIVERSITY GOVERNMENT AND ADMINISTRATION.

An important report on this subject was published in the bulletin for March, 1920, of the American Association of University Professors.

Part I of the report deals with problems and principles of university government and administration.

What part should the faculty play in the determination of a university's fundamental educational policies; with regard, for example, to the establishment of new educational enterprises, such as new colleges, schools, and depart-

ments of instruction? What part should the faculty have in the selection of deans and president, in the selection and promotion of its own members, and in the making of the annual budget? Should there be explicit provision for representation of the faculty on the board of trustees by way of members elected by the faculty? Or should the faculty be represented by way of faculty conference committees advisory to the board? What is the best form of departmental administration; by permanent headship, or by a committee of professors with a chairman chosen for a limited and short term? * * *

Says the chairman of the committee:

There is room for debate and difference of opinion in regard to specific features in the several details, but * * * there is no reasonable doubt as to the validity of the main principles involved. These are faculty power of initiative and right of consent in all matters of educational policy, faculty participation in the nomination of its own members and officers, provision for frequent interchange of views between trustees and faculty, openness of the faculty to suggestions of educational policy from the trustees; but the responsibility for the use of moneys and the final election of administrative officers and members of the teaching staff to remain with the trustees, since they are the custodians of the public interest in the care and administration of the property and income provided for the conduct of higher education and research.

Part II contains specific recommendations, and an appendix summarizes data in regard to current practice in the principal colleges and universities of the country. The specific recommendations deal with the relations of boards of trustees and faculties, the president and the faculty, deans and faculties, and faculty and budget making, the faculty (*per se*), and the departments. In this connection the report states:

There should be a recognized mode of procedure for the joint determination, by trustees and faculties, of what is included in the term "educational policies." It is difficult to frame in advance a completely inclusive definition of this term. Clearly, educational policies include the following: Standards for admission and for degrees; determination of the proper ratio between numbers of students, of courses and of instructors, respectively; numbers of teaching hours; the establishment of new chairs and departments of instruction, of new curricula and courses; the organization of new administrative units; the promotion of research; provision for publication; the abolition of any established form of educational or research activity; the distribution of income between material equipment and personnel. In the case of doubt or dispute as to whether a given matter is a question of educational policy, the matter should be decided by conference between trustees and faculty representatives and only after opportunity has been given for the faculty to consider and decide its views upon the matter. * * *

The fundamental principle that your committee subscribes to, with one exception, is that in all cases the faculty should have a recognized voice in the preparation of the annual budget. * * *

The president should, however, have the power to make independent budgetary recommendations to the trustees in order to meet special contingencies—such as to fill vacancies on the staff occurring during vacation, to raise a salary to meet an offer from another institution, or to secure a good man; but he should report his action in such cases at the earliest opportunity to the university budget committee. * * *

The faculty should be the legislative body for all matters concerning the educational policy of the university.

Among the standing committees of the general faculty should be a judicial committee of a small number of members, one or more to be elected annually by the faculty to serve for a definite term (or the whole committee to be elected by the faculty when need arises). In the event of the proposed dismissal of a member of the instructing staff, on indefinite tenure of appointment or before the expiration of a definite term of appointment, the member in question should have the right to full investigation by the judicial committee of the grounds alleged for the proposed action. Failure to sustain the charges before the committee should estop dismissal. The judicial committee should report its findings to the president and the board of trustees.

It is stated in conclusion that the committee's information indicates a growing tendency in the better class of institutions to accord to the faculty official participation in the selection and promotion of its own members, in the nomination of deans and presidents, and in the preparation of the budget, as well as in the determination of educational policies; that often trustees who are accustomed to autocratic methods in business and industry oppose a larger faculty participation in university and college government; that in every case where faculty self-government has been tried out for a term of years and under fair conditions, as notably, for example, at Oberlin and Reed Colleges, it has proved a signal success; that where, in the absence of formal and statutory provision therefor, the substance of democratic faculty government is in operation there are usually to be found contented and progressive faculties, but that without the legal form to protect it the substance is liable to vanish with a change of administration.

GENERAL INTELLIGENCE TESTS.

One of the subjects causing an immense amount of discussion among leaders in colleges and universities during the past two years is that of general intelligence tests. The subject was brought into prominence by the extensive use of these tests in the American Army during the World War. The Army tests were the work of a committee of seven well-known psychologists who were called into the service of the Surgeon General's office in the summer of 1917. The tests were first given an official trial in four of the cantonments in August, 1917. Afterwards they were revised and extended to the whole Army. At the signing of the armistice the total number of men examined in the Army was 1,726,966, of whom 41,000 were officers. As a result of the information obtained through these tests over 7,800 men were recommended for immediate discharge as unfit for military duty; 10,014 men for labor battalions or other service organizations; and 9,487 others for further observation and preliminary training. Nearly 30 per cent were found to be unable to "read and understand newspapers and write letters home."

During the war the Army intelligence tests were tried in a number of units of the Students' Army Training Corps scattered in various sections of the country. The results obtained, although by no means exhaustive, seemed to coincide so closely with conclusions regarding the ability of students reached in the usual ways that both military and academic authorities gradually conceded the great value of the intelligence tests. Assuming the approximate accuracy of the results gained from the tests, it also quickly became apparent that the general level of intelligence demonstrated by college students was so much superior to that displayed by the enlisted men in other sections of the Army as to justify the assumption made at the beginning of the Students' Army Training Corps that college students were especially well qualified for training as officers in the Army.

The introduction of general intelligence tests on such a wide scale in the Army set the whole college world to discussing the question as to whether these tests should not be substituted in whole or in part for college entrance examinations and certificates. At Columbia College, New York City, intelligence tests have been instituted as alternative forms of entrance examination. In the fall of 1919, 200 young men, many of whom would probably not have gone to college at all if they had been required to meet the usual entrance requirements, entered the freshman class by way of the intelligence examination. These young men did excellent work during the year. At a number of other higher institutions students who enter by certificate or by the usual entrance examinations are also being required to take the general intelligence tests.

During the two years just closed the intelligence tests have been used extensively in higher institutions throughout the country. In May, 1920, the Bureau of Education circulated a questionnaire asking for information concerning the progress of the tests in colleges and universities. Of the 228 institutions which replied, 124 had used some form of the tests. Not included in this number, however, are 47 additional colleges and universities which are known to have given the examinations. It is probably safe to estimate therefore that about 200 colleges and universities have used them for one purpose or another.

Prof. L. L. Thurstone, of Carnegie Institute of Technology, is chairman of a committee on intelligence tests for the Society for the Promotion of Engineering Education. Under his direction 48 colleges are participating in a series of five special tests and a general intelligence examination given at the time students enter college. Prof. Thurstone describes the work which the committee has undertaken as follows:

We collect considerable information about each student at the time of admission. This information includes such items as age, high-school scholarship,

high-school principal's estimate, college-entrance examinations, the special tests prepared for this investigation, and an intelligence examination. All of this information is tabulated and filed for safe-keeping. When the students progress in their engineering course they will separate in ability. Some will drop out entirely, others will remain as mediocre students, and others will excel. When we have their freshman scholarship available we compare these marks with each type of information that was available at the time of admission. In this way we are able to state the relative predictive value of each type of test with special reference to freshman scholarship.

In order to remove the personal equation as much as possible in the interpretation of our results, we calculate the correlation coefficient for freshman scholarship and each test. If this coefficient is high, the test has predictive value; if it is low, the test is not useful for predicting freshman scholarship. Of course we must realize that freshman scholarship is by no means a final criterion of engineering ability. But we feel justified in using it until other more complete criteria become available. * * *

We have sent out 10,275 sets of test papers and we have reports for 7,069 students on these tests. These records represent 39 colleges that have reported to date.

We wish to emphasize the fact that in order to complete this experiment it is necessary to check up the test scores with reliable measures of engineering success. We now have measures of freshman scholarship. That is a good criterion as far as it goes. But we must continue to check up the tests with the same 7,000 students on their scholarship when they become sophomores, juniors, and seniors. We must also check up the test scores with their engineering success measured in various ways. Then we shall be able to say what kind of test should be given in advising a boy about taking up engineering as a life work.

The purposes for which the tests may be used are, therefore, by no means confined to admitting to or rejecting students from college. Indeed, it is becoming clear that other uses, including the directing of a student's college education, the classification of students into sections, the elimination of failing students, and the assisting of students in the choice of a vocation, are of equal if not greater importance. As yet, however, very little has been done in colleges and universities to make use of the information which has been secured from the examinations. In nearly every institution there is a great need for an organization such as will attack the problem systematically and scientifically, in order that the time of every student may be spent more wisely than is now possible in colleges and universities.

Prof. Edward L. Thorndike, of Teachers' College, Columbia University, who is known as one of the foremost champions of the intelligence tests, reaches the following conclusions concerning the value which may result from the extensive use of intelligence tests in higher institutions:

The facts lead me to think that, hour for hour or dollar for dollar spent, the psychological test for intellect is preferable to the conventional tests for scholarship.

The psychological test gives a somewhat broader and more thorough sampling of the candidate's powers. The difference may be illustrated by the case

of a boy who, after graduation from high school, works in an office or shop for a year or so and then goes to college. He is probably better fitted for college, but is less fit to pass the conventional entrance examinations. The conventional test gives, in particular, a weight to knowledge of foreign languages and of mathematics out of proportion to their significance for success in college and professional work.

The psychological test measures the ability and promise of the candidate more and the amount and quality of his schooling less than the conventional tests for scholarship. Educational advantages doubtless count in the former, and native ability counts in the latter; but, speaking roughly, the one tests primarily the candidate's own reactions to life; the other tests an admixture of these with the skill and assiduity of his teachers, the fiscal status of his parents, and the educational advantages of his community. The psychological test, for example, favors gifted boys with poor advantages. The conventional examination favors rich boys with gifted tutors.

The psychological test acts more positively to select for ability. It advertises the fact that the college will concede to intellect. The conventional examination acts too much negatively, forbidding or at least delaying entrance to those who lack this, that, and the other special ability. Even the short experience at Columbia College seems to prove beyond question that gifted youths whose college education is desirable in their own interest and for the common good will enter college by an intelligence examination who could not enter college by the content examination.

THE NATIONAL RESEARCH COUNCIL.

In April, 1916, at a time when the relations with Germany had grown very strained, the National Academy of Sciences offered its services to the President. The President accepted the offer and requested the academy to organize the scientific and technical resources of the Nation on the most effective basis as a precautionary measure in the event of future war. The academy at once established, under the provisions of its charter, the National Research Council, which undertook to carry out the objects in mind. These objects were set forth clearly in an Executive order May 11, 1918, which at the same time served as a request for making permanent the work which the council had already so well begun:

In general, to stimulate research in the mathematical, physical, and biological sciences, and in the application of these sciences to engineering, agriculture, medicine, and other useful arts, with the object of increasing knowledge, of strengthening the national defense, and of contributing in other ways to the public welfare.

To survey the larger possibilities of science, to formulate comprehensive projects of research, and to develop effective means of utilizing the scientific and technical resources of the country for dealing with these projects.

To promote cooperation in research, at home and abroad, in order to secure concentration of effort, minimize duplication, and stimulate progress, but in all cooperative undertakings to give encouragement to individual initiative as fundamentally important to the advancement of science.

To serve as a means of bringing American and foreign investigators into active cooperation with the scientific and technical services of the War and Navy Departments and with those of the civil branches of the Government.

To direct the attention of scientific and technical investigators to the present importance of military and industrial problems in connection with the war and to aid in the solution of these problems by organizing researches.

To gather and collate scientific and technical information at home and abroad, in cooperation with governmental and other agencies, and to render such information available to duly accredited persons.

The membership of the council consists of representatives from the Government, national and technical societies, and others who can assist materially in promoting the objects of the council.

The council conducts its work through two kinds of divisions—general relations and divisions of science and technology. Under the first is included the Government division and the divisions of foreign relations, States relations, educational relations, research extension, and research information service. Under the second heading are grouped the divisions of physical science, engineering, chemistry, and chemical technology, geology and geography, medical sciences, biology and agriculture, and anthropology and psychology.

During the war the council was necessarily absorbed in the solution of technical war problems. Says Dr. Vernon Kellogg, chairman of the division of educational relations:

Under the general directions of the council, great centers of research throughout the country were kept occupied with Government work. In more than a score of leading universities the scientific laboratories gave feverish attention to problems of military optics, of ordnance, munitions, topography, and food conservation. The council also directed investigations relating to gun defense, dyes, high explosives, smoke screens, wireless telegraphy and telephony, fuel substitutes, detection of submarines, testing of materials, and pathological and medical problems. Associated with the council was also the group of psychologists whose work revolutionized the methods of organizing Army and Navy personnel.

With the close of the war the council rapidly completed the war work in which it was engaged, and on June 30, 1918, severed its direct connection with the Government which it had maintained through the Council of National Defense. Even previous to this date, February 11, 1919, the Council of the National Academy of Sciences adopted a program of activities which the National Research Council has been pushing forward vigorously.

In order to go on with its program, however, it was first necessary to secure adequate financial support. The Carnegie Corporation of New York has authorized an appropriation of \$5,000,000 to the National Academy of Sciences for the use of the academy and the National Research Council. A part of this sum is to be devoted to the erection of a suitable building in Washington as a home for the academy and the council, and the remainder to a permanent endowment. A building has been secured for present headquarters in Washington.

On April 9, 1919, the Rockefeller Foundation placed at the disposal of the council \$500,000, which was to be used during the five years from May 1, 1919, to June 30, 1925, for the maintenance of a system of national research fellowships in physics and chemistry. The General Education Board granted the council \$25,000 for the preparation of mental measurements of school children, and \$10,000 for the carrying on of a survey of the research conditions in the colleges and universities of the country.

Speaking of the work of the council since its reorganization for peace-time work, Dr. Kellogg again states:

We need a great cooperative scientific investigation of food and nutrition; the National Research Council has put it under way. We need far more study on a very wide scale of the problems connected with the preparation and use of fertilizers, of ceramics, of alloy steels, of synthetic drugs. The council has begun this study. There are great scientific problems of direct bearing on our national well-being in connection with public health and sanitation, with forestry, with intensive agriculture. And there are many others which may not at the moment seem to have so tangible a relation to practical affairs, the solution of which may nevertheless serve as the indispensable fundamental basis for future practical use.

The work of the division of educational relations is of particular consequence to higher institutions. This division intends to encourage research along scientific and technical lines throughout the colleges and universities. In order to accomplish this object it was first necessary to secure comprehensive and complete data from colleges and universities concerning the research opportunities and activities at the various higher institutions. This information has been secured by returns from circular inquiries and by personal visits by members of the council's staff. With this information at hand the division is in a position to carry forward its campaign for increased opportunities for research and the training of research workers in the educational institutions.

Ex-President Jacob G. Schurman, of Cornell University, states the situation concerning the necessity of research in colleges and universities as follows, in his annual report for 1918-19:

The absolute necessity of supporting scientific research, and more particularly the necessity of supporting such research in our great universities, is shown by the history of virtually every great achievement in applied science. Consider, for example, the recent remarkable developments in the field of radio-telegraphy and telephony, which have played so important a part during the war, and which promise to be of still greater importance in peace. As a means of communication over great distances the work was begun by Marconi and continued by numerous other able engineers, who in most cases were not university men. But the discovery of electric waves and the study of their properties, which laid the scientific foundation upon which all applications of these waves must rest, were due to such men as Kelvin, Maxwell, and Hertz, professors in the Universities of Glasgow, Cambridge, and Bonn.

One of the most important aids to the surgeon in the treatment of wounds is furnished by the X rays. As a result of the accurate diagnosis made possible by their use, thousands of lives have been saved during the last five years which would otherwise have been lost. Great credit is due to the able surgeons and engineers who perfected the necessary apparatus and used it under the difficult and dangerous conditions of war. But the discovery of X rays is due to Roentgen, a university professor, and came as the culmination of a series of investigations by other university men like Crookes, Hittorf, and Lenard. Without their work, in a field which then seemed to have no possible application to practical life, no one would even have thought of the possibility of such an aid to surgery.

Every great achievement in applied science has essentially the same history. First comes discovery and progress in pure science, then its application to some useful purpose. There can be no applied science unless there is science to apply. Pure science without useful applications is incomplete; but without a basis of pure science applications are impossible.

Coordination of research work at colleges and universities and other research agencies becomes highly important when it is realized that in the present chaotic conditions in this field virtually the same research problems may be in process of solution at two or more places, while others equally important may be largely or wholly neglected. By bringing to notice those research problems which need to be attacked and by acting as an agency to coordinate the work on them the National Research Council will be fulfilling a very important rôle in higher education.

REPORT OF THE CARNEGIE FOUNDATION FOR THE ADVANCEMENT OF TEACHING ON TEACHER TRAINING.

A plea for the greater recognition of the teaching profession is made in the report on "The professional preparation of teachers for American public schools," issued in 1920 by the Carnegie Foundation for the Advancement of Teaching. The report originated in an investigation of teacher-training facilities in Missouri, as requested by the governor of that State in 1914, but the study of the Missouri situation was found to involve a comprehensive examination of the entire teacher-training problem in the United States, and the findings in the Missouri survey are regarded by the foundation as furnishing a valuable index to conditions existing in other parts of the country. According to the report the teaching profession should be placed upon a collegiate footing and organized under a single competent direction as a part of the State university, parallel with medical, legal, engineering, and other similar divisions of higher education. Says the report:

What is really needed is not arbitrary distinctions between normal schools and colleges but an enlightened administration of the State's entire teacher-training function exercised from a single directing body equipped to prepare teachers for all schools as thoroughly as possible.

Normal schools should drop that name, and as professional colleges of education should become an acknowledged part of the greater university whole, simply because they are a part of the State's system of higher education, which is all the term "university" now implies. We would thus secure a unified and centralized authority prepared to deal in a consistent and efficient manner with the State's largest problem in higher and professional education.

The report urgently recommends a closer organization of all higher education within the respective States; the employment of married women in the schools, on the ground that whatever objections may be urged against married teachers are outweighed by the obvious advantage of having in educational work the leading women of the community; and the elimination through equal standards of preparation and ability of the current distinction in prestige between elementary and secondary school-teachers.

REQUIREMENTS FOR THE DOCTOR'S DEGREE.

The Bulletin of the American Association of University Professors for January-February, 1919, contains the recommendations of the association's committee on requirements for the Ph. D. degree. The following recommendations are excerpts taken from the committee's report:

1. There should be a minimum time requirement for the doctors' degree, to be disregarded only in the most exceptional cases. Not less than three years should be thus required, of which at least one year should be in the institution granting the degree.

2. (a) Organized summer school work should be recognized as part of the preparation for the doctorate when conducted on the same plane as work in the regular session, and when of distinctly advanced character. (b) Work in other institutions of substantially equal rank should be accepted at par value. (c) Approval should be given to work done in Government bureaus or similar institutions when a careful scrutiny of the situation indicates that conditions are substantially equivalent to those of properly organized university work. The committee believes that such work would often have to be accepted at some discount, and to a limited extent. (d) The committee has expressed approval of the encouragement of migration, but no satisfactory methods for promoting it have thus far been discovered.

3. A sharp distinction should be made between admission to the graduate school and admission to candidacy for the doctor's degree. The first should depend upon the presentation of a standard bachelor's degree, or in the case of foreign students of some unquestionable equivalent. Admission to candidacy should involve in addition written assurance by the head of the department in which the candidate desires to do his major work that he deserves the opportunity to secure the degree.

4. The committee disapproves the acceptance of correspondence work as satisfying any part of the requirements for the doctor's degree.

5. French and German should both be required of candidates for the doctorate, efficiency to be tested at least one year before the conferring of the degree. Other languages will often be necessary also. * * *

8. The doctor's degree should be conferred only upon persons of unusual intellectual endowment with unequivocal capacities for research.

9. In general it may be said that the committee favors the publication of at least so much of the thesis as would adequately represent the methods and results. The committee is divided in its opinion regarding the requirement that the university should share the cost of publication with the candidate.

10. The examination: More than one department should always be represented on the examining committee. Both oral and written examinations should be given. Preliminary examinations should be held at a considerable period in advance of the final examination as a protection both for the candidate and the institution. The final examination should cover the capacities of the candidate in the widest possible way, with distinct emphasis, however, upon the subject of the thesis.

THE AMERICAN COUNCIL ON EDUCATION.

The American Council on Education was established early in 1918 at a time when the war situation was perplexing college and university executives. Its purpose was to provide a channel through which the Government and the higher institutions of the country could approach one another in an informal way for the most effective use in the Great War of the resources and personnel of the colleges and universities. The council was composed of representatives from the great national educational associations. It established headquarters in Washington where, in addition to serving as a mediating agency between the Government and higher institutions, it undertook a variety of activities, among others to stimulate attendance at higher institutions, until the inauguration of the Students' Army Training Corps removed the necessity for this campaign.

The council also early interested itself in the relations of American higher institutions with similar institutions among the allied countries. The purpose was through a widespread exchange of information concerning the activities, condition, and spirit of American and foreign higher institutions, respectively, to build up a greater and more intelligent appreciation of one another. One of the ways in which this ideal was carried out was through the visit in the autumn of 1918 of the British Educational Mission. This mission was composed of a distinguished body of university scholars, who visited a number of centers of higher education in the Eastern and Middle Western States, where they conferred with American college and university scholars. The council had charge of the entertainment of the mission.

The close of the war raised the question as to whether the council ought to be continued. A meeting was held in Cambridge in December, 1918, where it was decided that there was continued need for such a central agency in order to unite the counsel of the several national educational associations on numerous post-war problems. Accordingly, a plan of financing the organization through membership fees from the constituent organizations and from the col-

leges and universities was adopted. In May, 1919, Dr. Samuel P. Capen was chosen director of the council. He began his duties in the following December.

The character and objects of the council are set forth by the director as follows:

The American Council on Education is the central organization in which the great national associations are represented. Its general object is to promote and carry out cooperative action in matters of common interest to the associations and to the institutions composing them. It has three classes of members, constituent, associate, and institutional. The constituent members are 16 national educational associations. Each is represented by three delegates who vote as a unit at meetings of the council through a designated person. Associate members are educational or scientific organizations having interests related to the work of the council. Associate members may send one representative each to the meetings of the council without right to vote. Institutional members are colleges, universities, professional and technical schools, contributing not less than \$100 a year to the treasury of the council. Each may be represented by one delegate at meetings of the council without right to vote.

Sixteen national educational organizations have become constituent members of the council and 11 associate members. There are 120 institutional members. The council performs a large part of its work through committees. Considerable attention has been devoted to the educational features of the various bills now in Congress, particularly the Smith-Towner bill. Digests of arguments for and against this bill were circulated among the higher institutions and an attempt made to secure from them a referendum of opinion on this measure.

A committee of the council has also prepared tentative plans for the admission of holders of French degrees and certificates to American institutions. If this basis is accepted by the colleges and universities, it will be a step in standardizing the treatment of foreign students. The council also proposes to take up the same matter respecting degrees and certificates from other foreign countries.

Early in 1920 the Association of American Colleges transferred to the council the administration of the scholarships granted by American colleges to French girls and the selection of the young women who attend French institutions on scholarships provided by the French Government. In 1919-20, 182 French girls were attending higher institutions in this country on scholarships and 20 American women went to French lycées on scholarships. The French Government has also recently offered 16 graduate scholarships and fellowships at the Universities of Bordeaux and Toulouse to American young men. The council will select the candidates who will be awarded these scholarships and fellowships.

THE INSTITUTE OF INTERNATIONAL EDUCATION.

The Institute of International Education was established February 1, 1919, by the Carnegie Endowment for International Peace. Its aims, as set forth in the first annual report of the director, are "to develop international good will by means of educational agencies and * * * to act as a clearing house for information and advice for Americans concerning things educational in foreign countries and for foreigners concerning things educational in the United States."

An administrative board, composed of representatives from the colleges and universities from the international fields of education, such as law, medicine, finance, journalism, and commerce, is responsible for the policy of the institute. The institute has established close relations with the American Council on Education in this country and with representatives of the American University Union, the University Bureau of the British Empire, the Office National des Universités et Écoles Françaises, and other organizations abroad.

In carrying out the purpose for which it was founded the institute arranged for a number of foreign scholars to visit all parts of the United States. It has also assisted materially in the entertainment of other scholars and educators, such as the Chinese Educational Mission, which spent several months visiting schools and colleges of all types in the United States. In addition to this, the institute circulated an inquiry among the faculties of higher institutions in France and Great Britain requesting information as to what persons would be willing to accept temporary appointments at American colleges or universities. From the replies which were received a list of available persons was compiled and distributed to higher institutions in the United States.

On the other hand, an attempt is also being made to locate American professors abroad in temporary appointments by paying the traveling expenses of a selected number of professors who are on sabbatical leave from their institutions.

In making available information about educational conditions in various countries for the benefit of students the Institute of International Education has already published two very useful and valuable handbooks entitled, respectively, "Opportunities for Higher Education in France" and "Opportunities for Graduate Study in the British Isles." At the same time information has been obtained and distributed regarding the fields of study open to American graduate students at British universities and the number of such students who can be accommodated at each institution.

All these activities will undoubtedly do much to build up a spirit of cooperation among the educated men and women of the world.

The exchange of foreign and American professors and students on a fairly large scale is bound to produce a more catholic spirit and a more tolerant international attitude, which, as everyone knows, is the basis of international peace.

In this connection it should be noted that the Committee on Friendly Relations among Foreign Students, in December, 1919, issued a directory of foreign students in the United States, which contained the names of 6,636 students attending 466 of the higher institutions in this country.

INTERNATIONAL FELLOWSHIPS AND SCHOLARSHIPS.

The Institute of International Education has also lent its encouragement to the establishment of fellowships and scholarships for the exchange of students between the United States and foreign countries. In addition to the provisions made for the exchange of French and American students already mentioned, there are a number of other similar arrangements. For instance, the American-Scandinavian Foundation has established 40 scholarships, mostly for graduate work, worth \$1,000 each, through which 20 American students are sent to Scandinavian countries and 20 Scandinavian students are received in American higher institutions. The San Francisco Chamber of Commerce has agreed to provide five scholarships for Chilean students in the United States. The Society for American Fellowships in French Universities has established 25 fellowships worth \$1,000 each, to be awarded to graduates of American colleges for advanced study and research in French universities. They are granted for one year, but may be renewed for a second year. The Committee for Relief in Belgium Educational Foundation will send 33 Belgian students to American universities on scholarships during the academic year 1920-21.

During the year 1919 the Rockefeller Foundation provided fellowships and scholarships for 85 persons, including 57 from China, 5 from Brazil, 4 from Czechoslovakia, and 1 from Salvador, at American colleges and universities for the study of medicine and public health. The foundation has not adopted an inflexible system of granting fellowships, but has been guided solely by the possibilities for noteworthy service which might be rendered by the holders of the fellowships.

Under the supervision of the International Serbian Educational Committee there are over 50 young Serbian students, divided about equally between young men and young women, studying at American colleges and universities.

THE RHODES SCHOLARSHIPS.

On account of the suspension of elections to the Rhodes Scholarships during the war, double the usual number of scholars will be elected in September, 1920. Thereafter the regular number, 32, will be chosen annually.

A new method of selecting the holders of the scholarships has been adopted. As was the case previous to the war, each State has a committee of selection which chooses the successful candidates subject to the confirmation of the trustees of the Rhodes scholarships. The change in the method of selecting the scholars is as follows:

Candidates must in the first instance be selected by their own college or university. The method of doing this is left to each institution. Institutions with a total enrollment of less than 1,000 students may be represented in the competition for any one State by not more than two candidates; those with from 1,000 to 2,000 students by not more than three candidates; those with more than 2,000 students by not more than four candidates. In States where elections are to be made this year both for 1920 and for 1921, institutions may be represented by twice the number of candidates that would be allowed were only one appointment to be made. Institutions should select their representatives on the basis of the qualities which will be considered by the State committee in making the final selection. These are: (1) Qualities of manhood, force of character, and leadership. (2) Literary and scholastic ability and attainments. (3) Physical vigor, as shown by interest in outdoor sports or in other ways.

The qualifying examination formerly required of all candidates for the Rhodes scholarships has been abandoned. The abandonment of this examination does not grant to Rhodes scholars exemption from examinations required by Oxford University for any of its degrees. Under recent regulations, however, holders of an "approved" degree from an "approved" university, with three years' residence at the university in question, can obtain "senior standing" and exemption from all examinations (including any examination in Greek) prior to the final honor schools. No list of approved universities is published. Applicants are required to submit their records with a view to the determination of their standing.

Before the war the annual stipend of £300 was ordinarily sufficient to pay all the expenses of the Rhodes scholars. The depreciation in the purchasing power of money, however, has made it necessary for the recipients of these scholarships to be able to supplement the stipend to the extent of £50 per annum. It is hoped that this change in the financial value of the scholarships will not discourage enterprising and capable young men from offering themselves as candidates. The resumption of the practice of awarding the scholarships in this country will no doubt continue to be an important factor in fostering the spirit of international friendship between the United States and Great Britain. This spirit so ardently desired by the founder of the scholarships was manifested in a splendid way during the Great War.

INTERNATIONAL EDUCATIONAL CONFERENCES.

One of the direct results of this international interest in higher education was the conference of American and British professors of English held early in July, 1920, in London. At this conference 17 delegates from the leading American universities joined with nearly a hundred representatives from British universities in a very profitable discussion of their mutual problems.

Another important conference was that of the International Federation of University Women, also held in July in London. This federation was founded for the purpose of promoting close contact among college women of various countries by establishing traveling fellowships; by making provisions for the exchange of professors, lecturers, and students; and by establishing clubhouses and other centers of international hospitality.

At the London conference representatives were present from a large number of countries, including the United States, Great Britain, Spain, Italy, Holland, the Scandinavian countries, France, Belgium, and Czechoslovakia. Considerable attention was devoted to the educational opportunities open to women in the several countries. A constitution was adopted and plans made for establishing a central office in London to act as a coordinating agency for the committees on international relations located in each of the countries which are members of the federation. It is planned to hold the next international conference in the summer of 1922.

THE INTERNATIONAL UNION OF ACADEMIES AND THE AMERICAN COUNCIL OF LEARNED SOCIETIES.

In March, 1919, the French Academy of Inscriptions and Belles Lettres, taking into account the movement in the field of pure and applied science, which ultimately resulted in the International Research Council, invited the leading academies and learned societies of the allied nations to send representatives to an international conference to be held at Paris during the following May. The object of the conference was:

(1) To establish, maintain, and strengthen among the scholars of the allied and associated states corporative and individual relations which shall be sustained, cordial, and efficacious, and which shall, by means of regular correspondence and exchange of communications and by the periodical holding of scientific congresses, make for the advancement of knowledge in the various fields of learning.

(2) To inaugurate, encourage, or direct those works of research and publication which shall be deemed most useful to the advancement of science and most to require and deserve collective effort.

Delegates from several countries, including the United States, attended the conference. A plan for the establishment of an International Union of Academies was drawn up and later adopted at a second conference, at which there were representatives from 11 countries. The new organization is called Union Académique Internationale, and it proposes to bring about "cooperation in the advancement of studies by means of collective researches and publications in the fields of the philological, archæological, historical, moral, political, and social sciences."

The governing body of the Union Académique Internationale is the "Committee of the Union," which is composed of two delegates from each of the participating countries. The headquarters of the union are located at Brussels, where occur the meetings of the delegates which are held at least once a year. At a meeting in May, 1920, officers were elected. At that time the following countries had been admitted to membership: Belgium, Denmark, France, Great Britain, Greece, Italy, Japan, The Netherlands, Norway, Portugal, Rumania, Russia, Serbia, Spain, and the United States.

The organization of the International Union of Academies immediately raised the question as to how American scholarship was to be represented in the new body. In the United States there is no academy similar to the British Academy and others maintained in European countries. Obviously it did not appear possible or perhaps desirable to undertake at once the creation of such an academy. Instead it was decided at a meeting of representatives from 10 of the learned societies, held in Boston, September, 1919, to recommend the creation of the "American Council of Learned Societies." The representatives thereupon drew up a constitution, which has subsequently been ratified. The constitution provides that the council shall be composed of two delegates from each of "the national learned societies of the United States which are devoted by scientific methods to the advancement of the humanistic studies." Eleven such learned societies have so far accepted membership in the council.

The Council on Learned Societies will name and instruct the delegates to the meetings of the International Union of Academies. It will also, if its resources permit, undertake the compilation and publication of exhaustive collections and studies in the field of the humanities.

THE AMERICAN UNIVERSITY UNION IN EUROPE.

On June 18, 1917, alumni from 10 of the principal American higher institutions met in Paris and formed the American University Alumni Association of France. The objects of this association were

"to cooperate in all proper ways with university authorities in the United States for the general well-being of American university and college men who come to France." A short time before this meeting the Yale Bureau in Paris was authorized, its object being "to supply a headquarters in France for Yale graduates, students and prospective students, and their friends."

These two movements were typical of a widespread feeling among college men that more suitable accommodations should be made for them while they were abroad in military or other service. Many conferences were held in the United States with officials of war service organizations, and finally in 1917, at a meeting of representatives from 15 leading universities at the University Club in New York City, plans for the organization of the American University Union in Europe were adopted. Five men composing a small executive committee went to Europe for the purpose of establishing branches of the union at several prominent European centers. The efforts of the American University Alumni Association in France and of the several individual college bureaus were immediately merged with those of the union. The representatives of the individual bureaus used the headquarters of the union and contributed powerfully to its success.

The union undoubtedly performed a great service for American college men in Europe during the period of the war. In his report for the year ending July 1, 1919, George Henry Nettleton, the director of the union, sums up the war work of the union as follows:

Organized primarily to meet the needs of American college men and their friends in service in the cause of the allies, the union through its various offices enrolled up to July 1, 1919, about 35,000 American college men, representing over 530 American institutions of learning. During the course of the war over 80 men and women shared in the regular work of its various staffs and bureaus. Many of them were American college professors given special leave for this overseas service. About 30 different American institutions were represented on the various staffs, advisory councils, and committees of the union in Paris, London, and Rome. The union was thus, both in the personnel of its overseas organization and in the constituency which it served, broadly representative of American colleges.

The service of the Union was essentially democratic. Its doors were open at all times to all American college men and their friends. It recognized no distinctions of rank, offering to officers and men alike the same general advantages, the same personal service, and giving to both opportunities, almost unique during the war, of meeting on common ground. The union in Paris developed special war facilities, such as those of purchasing, canteen, and banking departments, for the common benefit. Its rooms and restaurant, its entertainments, and its annual holiday dinners at Thanksgiving, Christmas, and New Year's were open equally to men of all colleges and of all ranks. At the offices and social headquarters of the union in London and Rome the same spirit prevailed.

The officers of the union also assisted quite materially, after the signing of the armistice, in locating the 2,000 American army students who were given leaves of absence to study at British schools and universities.

While the American University Union was in its beginning largely a war service organization it was recognized at the outset that it could perform an important peace-time service for the hundreds of American students and professors who study from time to time in European centers. Accordingly the board of trustees of the union redefined the object of the organization as follows:

The general object of the union shall be to serve as a bond between the universities of the United States and those of European nations, especially by encouraging the attendance and advancing the welfare of American students (including both men and women) at the universities of France, Great Britain, and Italy, in such ways as the trustees may see fit.

The early plan of financial support also necessarily came in for considerable change. During the war the union had been maintained about equally by dues received from 130 colleges and universities and by voluntary subscriptions from interested persons or organizations. The amount collected in these two ways for the year ending August 31, 1919, was \$41,588.

Under the new plan of organization the trustees of the union will be appointed by the large higher institutions, by certain higher education associations, and by the trustees themselves. The directors of the American Council on Education and of the Institute of International Education, with whom the union works in close cooperation, are *ex officio* trustees. Dues from subscribing colleges and universities, ranging in amount from \$100 to \$500 per year according to the number of their graduates, continue to be one of the chief sources of support. However, the union is also endeavoring to raise an additional fund of \$300,000 for current expenses, permanent endowment, and the erection and endowment of a *Maison des Etudiants* in Paris.

The plan for building a *Maison des Etudiants* in Paris is the direct result of a very generous and valuable gift of land in the center of Paris made to the union by the municipal council of Paris. The site for the proposed building is located in the very center of the city and in easy walking distance of the important higher institutions. Until the "Maison" is erected the officials of the Paris branch of the union will continue to occupy temporary quarters in which they will serve American college men and women.

In May, 1919, the offices of the union in Rome were discontinued and the interests of the union turned over to the director of the American Academy in Rome. For the present, at least, it is planned

to maintain only the Continental division in Paris and the British division in London.

In London officers of the union have been particularly fortunate in obtaining quarters in the same building with the Universities Bureau of the British Empire, where also may be found the Office National des Universités et Écoles Françaises. Besides affording facilities for easy cooperation with these organizations the location of the union enables students to have easy access to the British Museum and other centers of educational interest in London.



DEPARTMENT OF THE INTERIOR
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STATE LAWS
AND REGULATIONS GOVERNING
TEACHERS' CERTIFICATES

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STATE LAWS AND REGULATIONS GOVERNING TEACHERS' CERTIFICATES.

INTRODUCTORY STATEMENT.

It is the purpose of this study to present information as complete as possible concerning the laws and regulations which govern the issue of teachers' certificates in the United States in so far as they are regulated by State legislation or State administrative departments. Licenses to teach issued by city boards in accordance with regulations prescribed by them are not included in this study; all other licenses to teach in the public schools of the United States are. Diplomas or certified statements of educational institutions which have the force of licenses to teach and such city certificates as are issued according to regulations set forth in the acts of State legislatures concerning other certificates or in rules of State boards of education are included. It is not considered within the scope of this study to analyze the laws relating to city certificates or to set forth the regulations prescribed by city boards of education. Nor is it possible to analyze the regulations governing courses leading to preparation for teaching given by the various institutions or approved by certificating boards or the methods pursued in examining teachers for certification in the different States. The former are given when prescribed by hours and subjects in the law itself or in regulations of the State boards as prepared for distribution. In other cases they are merely referred to as institutions or courses approved by the State department. Examinations are described by subjects and grades usually, or so as to conform with the methods used in the laws or regulations.

The method used to present principal regulations and summary tables follows, in part, that used by the Bureau of Education in previous studies, the last one made in Bulletin No. 18, 1911. This course is followed in order to facilitate comparison by persons interested in the evolution of legal certification in the United States as well as to present the present status of certification. The fundamental purposes of the study are:

- (1) To furnish information concerning legal provisions governing the issuance of certificates to teach in all the States.

- (2) To furnish data for comparison among States and facilitate recognition of certificates in cases in which similar or equivalent qualifications are demanded.

(3) To point out the trend in progressive legislation concerning teachers' certificates and promote standardization for the United States.

(4) To facilitate study and comparison of the standards set up by the several States.

The most important facts relating to teachers' certificates are contained in statements given on pages 39 et seq. These have been examined and corrected by the State departments in all cases. They are corrected to include changes in regulations or legislation up to December 1, 1919, but not later. The terms used are those given in the law or in the regulations of the State board. Licenses, diplomas, permits, and certificates are used in different States. When general reference is made, all are usually referred to as "certificates."

To avoid repetition, the following facts are assumed as universally accepted. Every teacher must be of good moral character. Experience, when required, is assumed to be successful experience. The nature and effects of alcoholic stimulants and narcotics are included in the study of physiology and hygiene. A standard high school is one requiring four years of work beyond the elementary school. A standard normal school requires high-school graduation for entrance and gives two years of work of college grade. A standard college is one which maintains a four-year course and requires the completion of four years of high school for entrance. Approved schools are those which meet requirements of State boards or State departments of education. The terms used in the law are repeated in the outlines as far as possible. In most cases the certificates are arranged according to duration, though there are sometimes exceptions to this. State certificates precede county certificates, which precede local certificates. Supervisory and administration certificates precede high-school certificates, and high-school certificates precede those for elementary schools and kindergartens. Special and temporary certificates usually follow all others.

HISTORICAL SKETCH

Certificating authority.—The power of certificating teachers was vested in local authorities first in practically all the States. This was indeed a matter of necessity and convenience and followed precedent set by the earliest settlers of New England and New Amsterdam. The early State and county authorities had neither a sufficient number of assistants to carry out such authority if granted, nor traveling allowance and other requisites for effective enforcement of regulations over any extended amount of territory.

New York was among the earliest States to establish State certification, but it did not always exercise the legal authority granted. The authority to issue certificates was given the State superintendent

in 1843. After 1847, when the office of county superintendent was abolished, it was exercised by State and town superintendents. In 1856 certificates were issued by both local school commissioners and the State superintendent, but the latter was empowered to prescribe the regulations under which they were issued. It appears therefore that the power to control certificates was centralized, but the authority was not exercised, extensively at least, until 1888.

Centralization of certification in New York developed about as follows: From 1795 to 1812, qualifications were determined by the town commissioners; 1812 to 1841, the town commissioners and three inspectors examined and licensed teachers; 1841 to 1843, town commissioners and two inspectors performed these duties. From 1843 to 1847, the town superintendent, county superintendent, and State superintendent all were authorized to examine teachers, while from 1847 to 1856, State and town superintendents only controlled certification. From 1856 to 1888, county school commissioners had authority to examine teachers and issue certificates for their districts, while the State superintendent prescribed rules under which they were granted, and issued certificates valid throughout the State. In 1888 the certificating authority was centralized by the State superintendent and the county commissioners, who voluntarily used questions and followed rules prescribed by the State superintendent. In 1894 a law was passed which removed all doubt concerning the authority of the State superintendent in this respect by prescribing that commissioners examine teachers only under rules prescribed by the State superintendent and with the use of questions furnished by the State department and examined by a board of examiners in the State department. Thus uniformity and centralization were complete. In 1899 the supervision of teachers' classes passed to the State department, thereby centralizing and coordinating all agencies concerned with the preparation and licensing of teachers. Virginia, Montana, and Idaho are other States with similar systems. Some other States, however, accomplish similar results by requiring applicants for certificates to complete "approved" courses in teacher-training institutions, or through representation of the State superintendent on the governing boards of teacher-preparing institutions.

Missouri and Indiana in 1824 legalized the examination of teachers by district visitors and township trustees, respectively. Later, in 1837, Indiana provided by law for "a selective estimate and ranking of teachers of the county by three examiners in each county appointed by the circuit court." In 1847 the State common-school convention "demanded some standard of qualifications and corresponding compensation for teachers of the State." Five years later, under provisions of the law of 1852, the certification of teachers was made one of the duties of the State superintendent of public instruction, to

be performed by himself or deputy. Few deputies were appointed immediately. The law of 1861 modified that of 1852 in such a manner that one examiner was appointed in each county by the board of county commissioners for a term of three years. These officers also granted licenses on public examination, exacting therefor a fee of \$1. In 1873 the county commissioners became—by name and duties prescribed—county superintendents and assumed the responsibility of examining teachers. In Indiana thenceforth the two systems of examination, county and State, developed together; the county superintendent issued certificates of county-wide validity and the State superintendent those which were State-wide.

In Michigan the first law provided that teachers should be examined and certificates given by township boards of school inspectors. These boards were replaced in 1867 by county superintendents. The same law (of 1867) granted authority also to the State superintendent of public instruction to issue certificates good in the State. It was repealed temporarily, but was reestablished in 1897 and still is in operation.

In Pennsylvania the authority to grant certificates was given first to town committees elected by the people in much the same way as and with duties and powers similar to those in New England. This authority was transferred to county and State superintendents in 1854; where it has since remained. These three States, Indiana, Michigan, and Pennsylvania, retain the State and county systems at the present time, though in Indiana the State controls and in Michigan it exercises partial control over the issue of certificates.

✓ Many of the States, particularly the older ones, had a development similar to those given. A few, like Arizona, established State centralization of the certificating powers with Territorial organization. Others are just reaching this period of development after unsatisfactory experience with more localized and less efficient systems. A few States continue the State-county system, and two still give local authorities full power to pass on the qualifications of teachers. In general, the development is about as follows: Beginning with local district or township inspectors or examiners, the certificating power passed into the hands of county superintendents. As State departments of education were definitely established and assumed importance and prestige, more and more educational power was granted them. Higher efficiency and more unified requirements were secured under these new conditions by including among the legal duties of the State department that of granting certificates of State-wide validity, and that of influencing or controlling the whole matter of certificating teachers. The continuous tendency toward centralizing the certificating power from 1898 to 1919 is shown in Table 1, which summarizes information on this subject in this and previous studies made in the Bureau of Education.

TABLE 1.—*Showing tendency toward centralization of certificating authority in State departments of education.*

Kind of system.	Number of States. ¹			
	1898	1903	1911	1919
State systems (State issues all certificates).....	3	5	15	28
State-controlled systems (State prescribes rules, gives questions, and examines papers; county authorities issue some certificates).	1	(²)	2	7
Semi-State systems (State makes regulations and gives questions; county authorities issue certificates and correct papers).	17	(²)	18	10
State-county systems (both issue certificates; county retains full control over examination for one or more certificates).....	18	(²)	7	3
County system (county issues all certificates)	4	1	1	0

¹ Temporary and emergency certificates and permits not included.² No data.

Qualifications required for certificates.—During the colonial period the requirements for teachers' certificates were very meager and indefinite, though some were always exacted. In New York, during the period of Dutch colonization, teachers were licensed by civil and ecclesiastic authorities. No one was allowed to teach without a license so obtained. During the English control, 1683 to 1689, it was decreed that "no schoolmaster should teach without a license from the Archbishop of Canterbury or from the Bishop of London." That requirements under either régime were not rigid is illustrated by the case of Johannes von Gilder, who was tolerably "well acquainted with reading and writing; so it happened that several of the principal inhabitants advised and encouraged him to open a public school." He then petitioned and was granted the privilege of "keeping school."

In New England, as in New York, the character of the requirements was in some cases purely religious, some special form of religion being a prerequisite. In others, nationality was the determining factor, and in others academic proficiency was the desideratum. In Connecticut and New Jersey it was decreed at least as early as 1714 that selectmen should examine teachers as to their qualifications. Little is said as to the nature of these. The New Hampshire schoolmaster, like that of Massachusetts, must be "discreet of conversation and well versed in tongues." This regulation was in force in 1647.

The Massachusetts law of 1701 required every grammar schoolmaster to be approved by the minister of the town and the ministers of two adjacent towns. According to the law of 1712, schoolmasters must secure the approbation of the selectmen of the town. Later, in 1789, it was required that masters of schools must be graduates of a college or university, though a certificate of proficiency from some learned minister might be taken in lieu of this. Still later, in 1827, a certificate of qualification from the town school committee was necessary before any teacher could be employed. The system of town certification of teachers still prevails in Massachusetts.

When States and Territories were organized, the laws prescribed qualifications more definitely. In New York, from the beginning of its organization as a State, qualifications of some sort were exacted. By the act of 1795 the town commissioners were required to determine qualifications, though these are not specified and were probably left to their own judgment. In 1812 we find that a commission appointed by the governor to report on a system for reorganizing the common schools recommended that, "as an impediment to bad men getting into the schools, it is made the duty of two town inspectors to inquire into the moral and literary qualifications of the candidates for the place of teacher." The legislature in the same year passed a law in accordance with the recommendations which "established the principle that all teachers should possess moral character and certain scholastic qualifications." In 1841, when the county superintendency was established, the county superintendents were required to examine candidates and issue certificates of qualification. Testimonials of moral character and examinations testing ability to teach and "learning" were required. The latter included spelling, arithmetic, geography, history, and English grammar. In 1843 the State superintendent was authorized to issue certificates on "such evidence as may be satisfactory to him." Later it became lawful and customary to issue certificates upon the recommendation of local superintendents and school commissioners. Though the law of 1856 empowered the State superintendent to prescribe rules under which certificates might be issued, the power was not exercised. In 1888 a demand for a change in the existing methods of certifying teachers was caused by the fact that political pressure was being used to secure certificates. It was believed that instituting a definite, uniform method of examination under control of the State department would prove an effectual way of securing higher standards. The use of uniform questions, at first voluntary, was later made obligatory; and subjects, questions, and grades for examination were prescribed by the State superintendent. It is interesting to note that, in the first uniform examination in 1887, not alone questions but answers were furnished, and a circular sent showing the amount of credit to be given for each question. The subjects given were arithmetic, geography, grammar, physiology, general questions, American history, civil government, methods, school law, and algebra. Three grades of certificates were given. The law of 1887 provided for granting certificates to college graduates with experience. The normal diploma had been recognized as a State certificate since 1849, but did not secure exemption from local examinations in all cases.

In Michigan township inspectors licensed teachers until the county superintendency was established in 1867. The law provided that candidates for teachers' certificates should be examined in the

"several branches as usually taught in the primary grades, their moral character and their ability to teach and govern school." No branches or grades of certificates were named, and the opinion of the inspectors was sufficient. In 1867, under the provisions of the county superintendent's law, applicants were required to be examined in orthography, reading, writing, grammar, geography, and arithmetic. Three grades of certificates were granted, good for from six months to one year in the county.

In colonial Pennsylvania, though the custom of employing preachers as teachers and assuming their ability, was quite general, there is one early instance of a license requirement. Thomas Macon in 1693 was "told that he could not keep school without a license and was ordered to procure a certificate of ability, learning, and diligence." The first instance of stipulating subjects for examinations is found in the State law of 1834, according to which no certificate of qualification should be given by the inspectors to any person unless he was found qualified to teach reading, writing, and arithmetic. The Pennsylvania law of 1849 required teachers to hold a certificate enumerating the branches that they were capable of teaching, signed by a majority of the board of directors. These certificates were good for one year and renewable annually. The policy of issuing different grades of certificates of different duration was adopted in 1854 by a committee of county superintendents. The law of 1867 provided that no teacher should receive a certificate who did not possess a fair knowledge of orthography, reading, writing, geography, English grammar, arithmetic, history of United States, and theory and practice of teaching. Wickersham says of this law:

It was not expected that many teachers could pass an examination in the theory of teaching or even that many superintendents should be able to conduct such an examination, but it was thought that the time had come when all concerned in the work of education should begin to study the principles of their profession.

In Indiana the examination given by township trustees covered the subjects of reading, writing, and arithmetic, with an occasional branch added if petitioned by patrons. The test was simple and certificates often might be had for the asking. In theory, the qualification of teachers was recognized. In practice, little discrimination was made. Teachers having been examined "touching their qualifications and particularly as respects their knowledge of the English language, writing and arithmetic," were employed and entered into "articles of agreement." Not until 1865 can it be said that the examining and licensing of teachers received systematic and dignified consideration. In that year the branches in which examinations were required were first specified and the duration of licenses fixed. These were of four grades, good for 6, 12, 18, and 24 months. The six common branches were required by this law: Physiology, history

of the United States; elementary algebra; physical geography and elementary botany; elements of rhetoric and mental and moral science; Constitution of the United States; and the State school law. In 1871 in Indiana the State board of education began the monthly preparation of questions upon the six legal branches and sent copies to the examiners of the several counties for use in the examination of teachers. This practice, while not obligatory, was almost universal. Two grades of State certificates were provided for the first grade, requiring history and zoology, in addition to the requirements for the second grade. In 1883 Indiana provided for a "professional" license, granted upon examination prescribed by the State board. Papers were graded and licenses issued by the State board of education.

These instances are reasonably typical of the development of scholarship requirements for certification in other States. From exceedingly indefinite requirements each State passed first to the stage in which language, writing, and arithmetic were required. Grammar, geography, physiology, United States history, and finally theory and practice of teaching were added as time passed. From the establishment of the first normal school in 1839, professional preparation for teaching became more and more common. Demands were increasing that certificates without examination be given to graduates of professional schools. In some States, Pennsylvania, for example, certificates were granted to normal graduates even before the power of certification was given to the State board or the State superintendent. By 1873 the discussion of such a certificate thought of as a "professional license" had become quite general, and a number of States recognized the demand in certification laws or in practice. The inclusion of the theory and practice of teaching as one of the subjects for examination by Pennsylvania, referred to above, became a custom among many States, and gradually other professional studies were added. The rapid growth of the recognition of professional and academic study as preparation for teaching is shown by the fact that, by 1897, 28 States recognized graduation from normal schools and universities as evidence of qualification for certification without examination. Data are given in Table 2 showing requirements of this nature prescribed by the different States at the time each of four investigations was made by the Bureau of Education.

TABLE 2.—*Growth of recognition of academic and professional attainments in legal requirements for certifying teachers.¹*

States in which—	1898	1903	1911	1919
Professional training is recognized as basis for granting one or more certificates.....	29	33	42	47
Professional subjects are included in examination for certificates (all grades or lowest grade).....	17	40	42	46
Professional training is prerequisite for certificates of the lowest grade..	0	0	2	17
Graduation from standard high school ² is prerequisite for certificate of lowest grade.....			1	11
Graduation from high school and some additional professional training is prerequisite for lowest grade certificate.....			1	4

¹ Emergency or temporary certificates are not considered in this table. Certificates deemed of this nature include a "third grade special" certificate in Wisconsin, where the regular third grade certificate requires 6 weeks of professional training; also a third grade "special" certificate issued in Idaho.

² Missouri and Kansas require high-school graduation for some but not the lowest county certificates. The New Jersey law requiring high-school graduation (4 years) did not become effective till 1914, though passed in 1911.

AGENCIES WHICH ISSUE CERTIFICATES.

Teaching certificates are issued by State, county, and local (town, district, or city) authorities. In this study city certificates are not included except when there are direct provisions in the State law or State regulations which govern their issue, and their consideration is not easily separated from that of certificates outside of cities. Regulations governing city certificates are in most cases made by the local boards, and since all can not be included, all are omitted. Temporary and emergency certificates and permits are also omitted from the summaries given below. Considering then the State, county, and township or district certificates (outside of cities), there are the following systems of administrative organization:

1. *State systems*, in which all certificates are issued by State authorities and the State retains control over the whole matter of teacher certification.

2. *State controlled systems*, in which State, county, and district ¹ authorities may issue certificates, but the authority governing the issue (including giving questions and examining papers) is retained by the State officials. Local authorities merely issue certificates.

3. *Semi-State systems*, in which States exercise some but not complete control. The State department makes the regulations and gives the questions for examination, but local authorities examine the papers and issue certificates.

4. *State-county systems*, in which the State, county, township, city, and certain district authorities all issue some certificates and govern all or important regulations formulating questions, for example, under which they are granted.

5. *State-local systems*, as in some of the New England States, in which complete power of certification is given to the township school committees as well as to the State department.

¹ New York.

This classification is made with the idea of showing prevalent tendencies toward centralization of certificating powers. In 33 States practically the entire control is with State authorities. In 10 additional States the power to give questions and make regulations is retained by State authorities, but county authorities issue certificates and correct the papers. This arrangement does not result in a uniform State system, since counties may have different standards for grading papers. Uniformity is obtained only when State authorities examine papers as well as give questions and make regulations under which examinations are held and certificates issued. This is illustrated by an experiment made by the Bureau of Education in a State in which the semi-State control system obtains. Several copies of the same reply papers were sent to a number of county superintendents to whom the matter was explained and who were asked to grade the papers as examination papers ordinarily are graded by them. The results of this experiment are shown below.

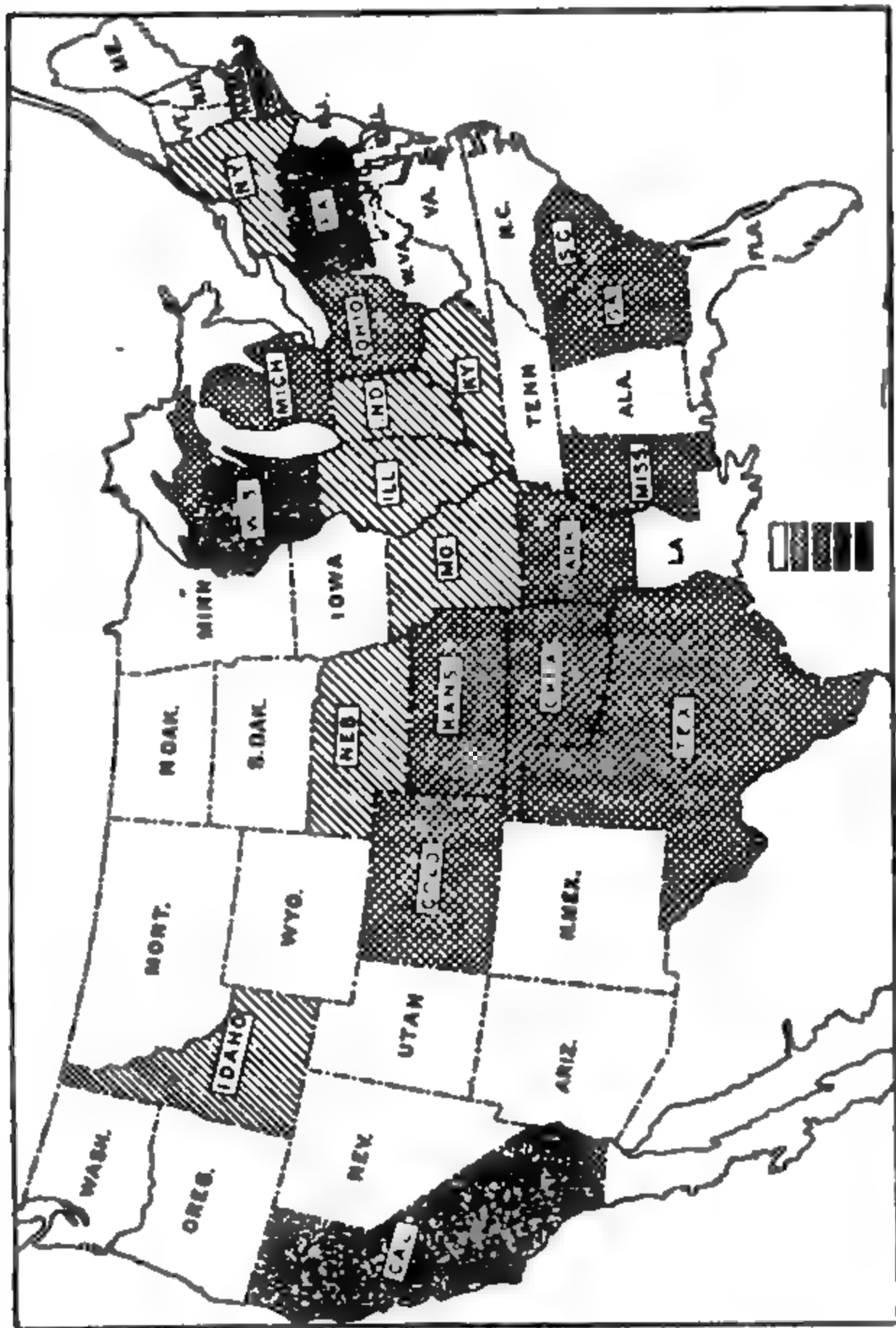
TABLE 3.—*Grades given by seven county superintendents to four examination papers written by one candidate for a first-grade teaching certificate.*

	United States history.	Geography.	Reading.	Arithmetic.
	Per cent.	Per cent.	Per cent.	Per cent.
Superintendent A.....	66	77	59	70
B.....	50	57	57	69
C.....	81	83	65	88
D.....	89	69	85	68
E.....	44	63	85	66
F.....	72	78	80	65
G.....	91	84	70	73
Variation.....	44-91	57-88	57-85	65-88

Below is a table showing the seven superintendents arranged under each of the four headings in the order of their ratings from lowest to highest. For instance, Supt. E gave the lowest rating in United States history; Supt. G gave the highest rating in the same subject. It will be noted that no superintendent gave uniformly high, low, or medium ratings. This becomes particularly evident if lines be drawn connecting the four A's, the four D's, and the four G's.

Superintendents arranged from lowest to highest according to ratings given examination.

	United States history.	Geography.	Reading.	Arithmetic.
Lowest.....	E	B	B	F
Second.....	B	E	A	D
Third.....	A	D	C	E
Fourth.....	F	A	G	B
Fifth.....	C	F	F	A
Sixth.....	D	G	D	G
Highest.....	G	C	E	C



Administrative systems which issue teachers' certificates.

There are three States in which the county authorities are given the power to grant certificates practically on their own initiative and unhampered by State regulations. These are Pennsylvania, Wisconsin, and California. In Pennsylvania certificates are issued by county superintendents and may be issued by town or district superintendents whenever the districts reach a population of 5,000 and engage a special superintendent. In California and Wisconsin the county boards may issue certificates, give the examination, and correct the papers. The number of certificates given in this way in California is restricted. The majority of certificates in the State are given on credentials from the State board and from institutions. In practice California may be considered a State system. Less than 2 per cent of the total number of certificates issued by county boards during 1919 were issued on examination (letter from State superintendent).

In Massachusetts the local township boards issue nearly all certificates, the State certificates being confined chiefly to those given to superintendents in union districts and teachers in State-aided high schools. In Connecticut local boards issue certificates for secondary and elementary grades, but the State also issues eight different kinds of certificates for all grades and all schools of State-wide validity.

SYSTEMS OF ADMINISTRATION FOR THE CERTIFICATION OF TEACHERS.

- I. State systems (all temporary certificates and permits excluded, also city certificates excluded): New Hampshire, Rhode Island, Maine, New Jersey, Vermont, Delaware, Maryland, Virginia, West Virginia, North Carolina, Florida, Tennessee, Alabama, Louisiana, Minnesota, Iowa, North Dakota, South Dakota, Montana, Wyoming, Utah, New Mexico, Nevada, Arizona, Oregon, Washington, 26.
- II. State controlled systems: New York, Kentucky, Missouri, Nebraska, Indiana, Illinois, Idaho, 7.
- III. Semi-State systems: South Carolina, Georgia, Arkansas, Mississippi, Oklahoma, Texas, Kansas, Ohio, Michigan, Colorado, 10.
- IV. State-county systems: Pennsylvania, California, Wisconsin, 3.
- V. State-local systems: Massachusetts, Connecticut, 2.

Another important consideration regarding the issuing of certificates is the assignment of the authority to grant them and to define the conditions under which they are granted. The two methods are:

1. Statutory provision specifying the number of certificates, the qualifications demanded for each, the authority empowered to grant them, term, validity, etc.

2. Assignment by statute of authority to formulate rules and regulations for certification to State officers without making specific provision for details in the law itself. Generally the authority to do this is given to the State board of education or the State department.

City boards are granted this liberty in nearly all States either directly or indirectly.

NUMBER AND NAME OF CERTIFICATES.

Tables 4, 5, 6, and 8 give data concerning the number, duration, validity, and distribution among classes of schools of certificates issued by State, county, and local agencies. A comparison with similar data collected in 1911 shows that there were about the same number of certificates granted in 1919 as in 1911. Some States have discontinued one or more of the lower grade certificates; several have simplified their systems and decreased the number in this way. Vermont, for example, in 1911 issued 11 different kinds of certificates, and in 1919 only 3, both exclusive of permits. On the other hand, the practice of differentiating certificates as among teachers, principals, superintendents, and instructors or supervisors of special subjects has increased, and the number of certificates of this nature is correspondingly larger. If all special certificates were enumerated here as separate certificates, namely, one for music, another for art, another for physical training, and the like, the number would be increased. Since these are usually classified under one head as "special certificates" in the laws or regulations, the same form is followed here. The case of city certificates when given here is similar. The law usually permits the city boards to issue several grades of the certificate named under each head.

Each State has elected the terms by which to designate the certificates issued. There is no homogeneity among the States, either in the names used or in their significance; nor are any principles followed which control the naming of certificates. Acquaintance with the names and provisions of certificates in one State is of little assistance in interpreting those of other States. A first-grade certificate in one State may be the equivalent of a college diploma or life license in another so far as qualifications demanded for or validity of the certificate granted is concerned. This lack of uniform nomenclature for all States or the adoption of governing principles controlling the naming of certificates possibly accounts for the difficulty in securing a more general and a fairer system of exchange or recognition of certificates among States.

Designations of certificates are influenced by or dependent upon:

1. Extent of territory covered; as State certificate, county certificate, local certificate.
2. The kind of school in which certificate is valid; as elementary, high-school, kindergarten, primary.
3. Subjects for which issued; as special certificate in home economics, in music, etc.

4. Time for which valid; as life, 36 months, permanent, provisional.

5. A combination of two or more of these.

There are a variety of terms used throughout the country. "Certificate" is the most common; "license," "diploma," and "permit" are others, the latter being used in the same sense as temporary or emergency certificate or license. Some States use both certificate and license, referring by these terms to a different type of certificate, Wisconsin for example. Connecticut gives "honor" and "statutory" certificates and New Hampshire "service" certificates. "Permanent" and "provisional" or "probationary" often refer to certificates which are alike in the qualifications exacted and the kind of school and territory in which valid, but different in duration. First, second, and third grade certificates usually represent varying grades of qualifications and experience exacted, but belong to the same class as to kind of schools and territory in which they are valid.

CLASSIFICATION OF CERTIFICATES.

Certificates are classified in various ways in the different States. The most common forms of classification are as follows: (1) According to the class of schools or grade of work for which they are issued and in which they are valid. (2) According to the degree of scholarship which they express, as determined by grades made and number of subjects included in an examination; or by the number of years' credits, or hours of academic or professional training indicated on the credentials presented. These are valid in all schools. (3) Combination of scholarship and class of schools or work; such as temporary and permanent certificates for high, elementary, and primary schools, for special subjects and for supervision, or first and second grade certificate for each. Successful experience is an important factor in the requirements for the higher grades of certificates in most States.

The most common classification according to kind of schools is that of elementary and high-school certificates, often two or more grades of each. Usually additional training or examination in additional subjects is exacted for secondary or high-school certificates. Special certificates for teachers of kindergarten and primary grades are issued in many of the States, and special supervisors' and principals' certificates are becoming more and more common. Some States make special requirements for and give special designations to these; others require higher grade certificates, but of the regulation kind. Rhode Island does not specify a certificate for high schools, but the first grade is the one exacted from high-school teachers. Practically all States issue special licenses for teachers of music, drawing, home economics, manual training, physical education, and other specialized subjects. These may be issued on an independent

basis for training or examination in the special subject; or a regulation certificate with evidence of additional qualifications may be exacted. The number of States making this form of differentiation in certificates granted—that is, having special certificates for primary, elementary, high-school, and special-subject teachers—is increasing.

Certificates issued according to amount of scholarship, measured by examination or education are most commonly of the first, second, and third grade. They are issued by county more often than by State authorities and are usually valid in all of the schools under the jurisdiction of the authority which issues them. The period of time for which they are valid is dependent upon years of experience, the grades made in the examination, or the amount of education and training shown by credentials. They are also, but less commonly, designated as provisional and permanent. Professional, State, professional normal, college diploma, and other designations are used for certificates representing varying degrees of scholarship peculiar to the State in which they are issued but representing no widespread uniformity of practice.

METHODS OF SECURING CERTIFICATES.

In the majority of States there are two routes to certification—one by examination and one on the basis of credentials showing academic and professional training. The examination method is still the most common, but is gradually being replaced by that of professional preparation. Vermont is the only State in which certificates are issued on the basis of academic and professional training only, and the examination method is entirely abandoned. Connecticut is the only State in which certificates are issued on examination only.

Certificates issued on the basis of education and training are usually given for graduation from high-school training classes, normal schools, or colleges maintaining “approved” courses in education. In some States full graduation is not necessary in order to receive credit toward certification. A prescribed number of “courses” or “credits” or “semester hours” receive recognition. Full information concerning certificates granted for graduation or credits from standard institutions is given in Tables 10, 11, and 12.

Some States in which certificates are issued by the examination route chiefly are requiring a minimum amount of academic or professional training or both as a prerequisite to certification either of some or all (including the lowest) grades of certificates. Some States require in addition to graduation from accredited institutions an examination in one or more subjects. Thus we have, occasionally, a combination of the two methods. Montana and Idaho are examples of the former. Graduation from a four-year high school is becoming

rather common as a prerequisite for all or some certificates of lower grades.

In some States individual consideration is given applicants for certificates of some kinds, that is, each applicant is considered on his individual merits and not necessarily according to stated rules and regulations. Among these States are Rhode Island, Vermont, and New Hampshire. Many States keep lists of institutions approved for the purposes of certification. These are usually designated as approved or standard institutions. Among such States are California, Oregon, Montana, Maine, West Virginia, Idaho, Vermont, Michigan, and Delaware. North Carolina classifies the institutions within the State for certifying purposes. Some States use for this purpose the list of accredited institutions furnished by the Bureau of Education.

SCHOLARSHIP REQUIREMENTS FOR TEACHERS' CERTIFICATES.

The scholarship requirements set forth in the provisions under which certificates are granted are measured in terms of graduation from, or courses taken in educational institutions of secondary or higher grade, or by means of an examination in prescribed subjects. Certificates granted on such requirements may be roughly classified as follows: (1) Those based on graduation from standard college or university with or without the inclusion of professional courses. These provisions are set forth in Table 10. (2) Those based primarily on graduation from a two-year course of college grade, generally given in normal schools. These provisions are found in Table 11. (3) Those based on graduation from a four-year high school, generally including professional courses given in connection with the regular work. These provisions are given in Table 12. (4) Those based primarily on scholarship attainments shown by examination. The grades required on examination are not necessarily obtained at one time, but in some cases may be obtained in successive examinations, or the possession of a prior certificate of lower grade may be substituted for a portion of the examination. Provisions for certificates given by examination are set forth in Tables 16, 17, and 18.

The value of a certificate is measured best by the amount of scholarship and successful experience to which it testifies. The extent of its validity, its duration, and similar provisions are minor considerations, if a certificate is to be of value as an estimate of ability to teach and govern a school. There is a tendency toward higher scholarship requirements which may be observed in several ways. When a new form of certificate is established, the qualifications demanded are usually higher and more specialized than formerly (see Tables 13-15). Kindergarten, primary, and special subject cer-

unless some guaranty of its quality is given. In some States experience is credited toward renewal or certification only on the recommendation of the superintendent under whose direction the service was performed. The Indiana scheme for classification of teachers for salary and certificates includes a rating of the teachers' classroom efficiency made by the supervising officer. In Ohio the examination includes a practical test in teaching. The majority of States apparently assume that all experience offered as evidence of attainment in teaching ability is successful, or at least they have in their regulations no well-defined method of evaluating it.

The scholarship requirements as given in the tables have serious limitations. Courses are measured by the length of time they are pursued and examinations by the subjects given only. This assumes that all courses of the same length and all examinations in the same subject are of equal value. It is apparent that this course may not represent true conditions, but the scope of this study does not permit an investigation of the quality of the courses given in institutions or of the kind of examinations given in the different States. With normal schools and sometimes with colleges serious difficulty is encountered in differentiating among certificates granted to those who have completed the standard courses (that is, courses of higher or college grade), and those granted for courses entrants to which do not comply with the usual entrance requirements represented by the completion of a four-year high-school course. An effort was made to include in the tables concerning certificates issued for college and normal school courses (Tables 12 and 13) only those certificates based on graduation from two or four year courses of college grade. It is recognized, however, that this effort has not always been successful, and can not be so long as the present regulations in certain institutions continue. An example may be cited of one institution of the kind referred to, to which students are admitted on conclusion of elementary or high schools. The former receive a certificate or diploma on completion of a four-year course. The latter receive what is apparently the same sort of certificate on completion of a two-year course, though the difference in training represents two years of work of secondary grade. Certain other institutions which apparently require high-school graduation for entrance maintain, in addition to the regular two-year course, a three-year high school. One group of students completes a course of two years above a four-year high school, equivalent to six years above the elementary schools; the other a course of five years above the elementary grades. No discrimination is made as to the diploma or certificate issued to graduates of these courses.

Similar conditions are common among high schools giving teachers' training courses. A few require four years of high-school work and

an additional year of professional work from applicants for certificates to teach. Others issue certificates at the close of two, three, or four-year courses in which work both secondary and professional in nature is included. Standardization of courses leading to certificates given in high schools, normal schools, and colleges is badly needed in order that definite classification of certificates issued on the basis of academic and professional training may be made. Proper discrimination among courses leading to certification in the various institutions would probably lead to a wider recognition among institutions and States of certificates granted in this manner and would be for the good of the individual and the institution as well as of the service.

In Tables 9, 10, and 11 scholarship requirements measured by credits from educational institutions are given in semester hours when possible or courses or fractions of years in order to permit of their measurement and of comparison. When examinations are required, the subjects are divided as follows:

(1) Traditional elementary school subjects: Reading; writing; orthography, punctuation, orthoepy; language, composition; grammar; arithmetic, mental and written; number work; geography; United States history, elementary civics, local history; physiology, hygiene, nature and effects of alcohol, stimulants, and narcotics.

(2) Newer elementary school subjects: Drawing; music; nature study; agriculture; manual training; household arts, domestic science, etc.; physical training; current events.

(3) Higher subjects (secondary and higher schools): Rhetoric, literature, algebra, geometry, languages, history, physics, chemistry, biology, economics, and such other branches as compose the standard high school and college curricula, and also cataloging and use of school libraries.

(4) Professional subjects: Philosophy of education, history of education, psychology, school administration, theory and practice, methods, school law and State manuals, and such other professional subjects as may be named.

California has probably established better standards than any other State in the amount of academic and professional training required. Normal training equivalent to two years above a four-year high school for elementary teachers, and college graduation including one year of graduate work for high-school teachers are the California standards.² Such credentials, however, are not essential, as certificates are granted also on examination. States which require some professional training in addition to completion of a full four-year high-school course as prerequisite for any certificate are the following: Idaho, New Jersey, Indiana, and Utah. In Virginia the

² Though legal requirements are very indefinite in Massachusetts, graduation from normal school or college is the accepted standard; probably few teachers employed fall below it.

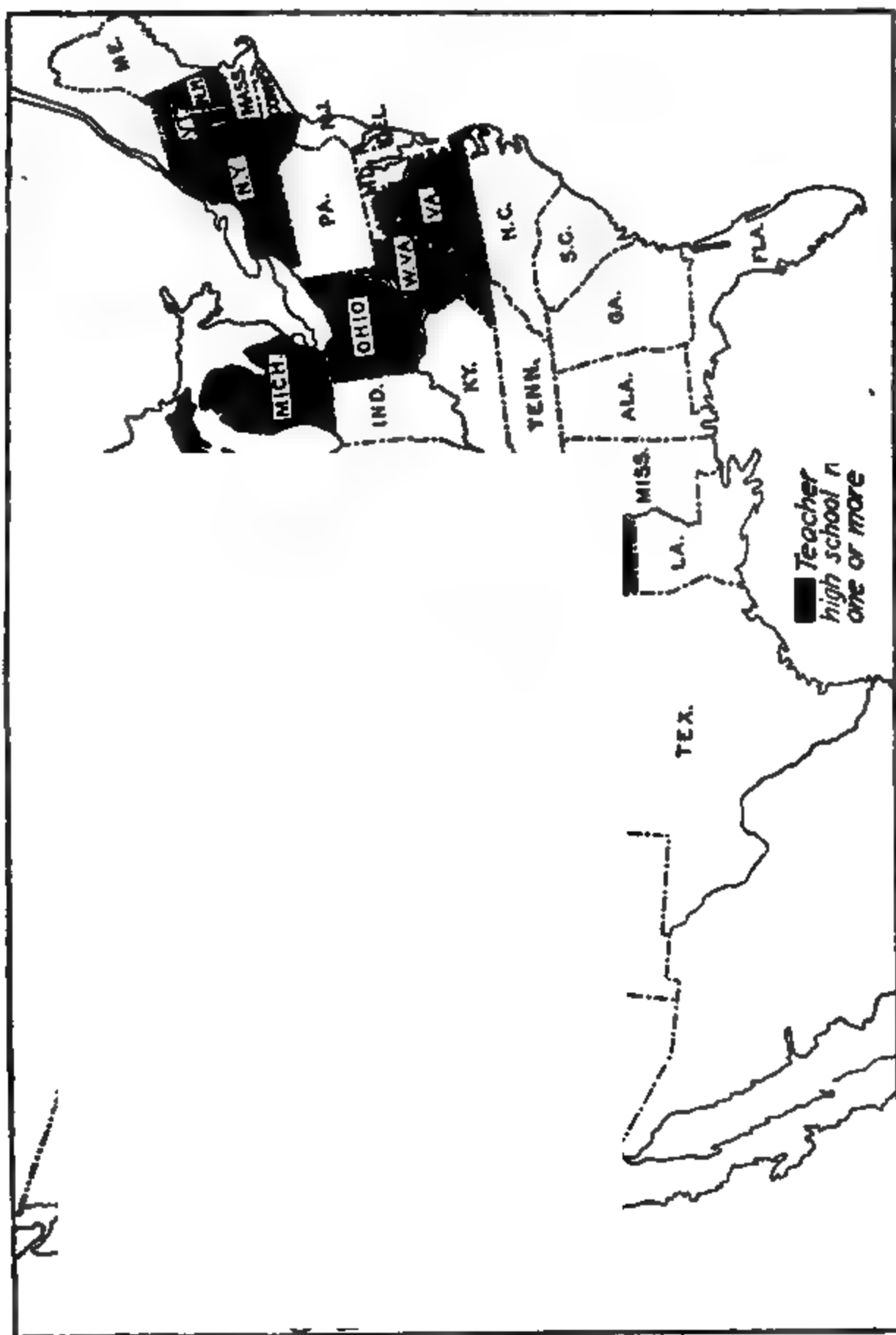
requirement for the lowest grade of certificate for elementary schools is six weeks of professional training in addition to graduation from a four-year high school, but alternative of an equivalent examination is offered. Ohio, after 1924, and Wisconsin, after 1923, will no longer grant certificates to candidates with less than four years of high-school education and additional professional training in an approved institution.

Indiana was the first State to establish by law a minimum prerequisite of graduation from a four-year high school for the lowest grade certificate to teach. At present there are 7 States, in addition to the 4 mentioned above, in which this is the minimum requirement. They are Vermont, New Hampshire, Illinois,² Michigan, Washington, Maine, and Oregon—altogether 11 States with this or a higher prerequisite for entrance to the examination for any teaching license. If we add Wisconsin and Ohio (after 1923 and 1924, respectively), California and Massachusetts (with exceptions and limitations given above), the number is increased to 15. Other States, notably Maryland, Wyoming, New York, Missouri, and Kansas, have established the high-school graduation requirement for certain certificates of lower grade but not all.

The idea of recognizing some professional training as necessary for any grade of certificate is growing in extent. The following States require some professional training in an approved school of secondary or higher grade as a prerequisite for the lowest grade certificate issued, 13 States, in addition to those mentioned before—Minnesota, Vermont, New Hampshire, Michigan, Delaware, West Virginia, Oklahoma, Oregon, Wisconsin, South Dakota (after 1920), Montana, Wyoming, and Idaho.

Twenty-one States have established teacher-training classes or normal training work in high school or in connection with high schools and recognize this training in their certification laws or regulations as fulfilling the requirements for some grade of certificate. These courses are given either as a part of the regular high-school courses, as is most common, or constitute a year's work in addition to four high-school years. In some cases the courses are under the direction of the State department and are aided by State funds. In others they are maintained by the high schools themselves independently of State aid. The following States recognize normal training in high schools as fulfilling the requirements for one or more kinds of teaching certificates: Kansas, Iowa, Missouri, Michigan, Wisconsin, Minnesota, South Dakota, Nebraska, Montana, Wyoming, Oklahoma, Vermont, Ohio, Nevada, Oregon, New Hampshire, New York, North Dakota, Virginia, Arkansas, and West Virginia.

² Illinois grants a "provisional" certificate, not considered because it is apparently temporary in nature.



Certification by examination only is of course the oldest method and persists for one or more certificates in all the States but one. The most noticeable of recent changes in the examination method of certification is the growing importance of professional subjects and the addition of such subjects as agriculture, music, physical education—characterized in the summaries as the newer elementary subjects. Complete information concerning subjects given in examinations is given in the State outlines and in summary Tables 16 and 18.

No attempt has been made in this study to analyze the questions given or method of examining papers when submitted. Information concerning the agencies which prepare questions and examine papers is given in Table 7. The tendency to centralize these two functions has been shown elsewhere. Gradually the probability of obtaining a high grade of State certificate through examination alone is being eliminated. In the majority of those States which continue to grant high-grade certificates in this way examinations are becoming very cumbersome. They usually include a full program of high-school, college, and professional subjects, in addition to the traditional elementary subjects, unless the latter are represented by a prior certificate. Tables 16 and 17, which give information concerning certificates granted in this way, show that in some cases the applicant is examined in as many as 12 or 13 of the higher subjects, in addition to the usual number of traditional and some professional subjects. Unless these examinations can be taken at different times, the requirements become very burdensome and exclude the probability of a great number of applicants. Even first-grade county certificates require examination in a great many subjects, and include higher and secondary as well as professional, newer, and traditional elementary subjects (see Table 16).

Table 18 gives the number of common-school subjects and the names of the higher and secondary, newer elementary, and professional subjects in which one must be examined in order to secure a certificate in the different States. An examination of this table shows how easy it is to enter the teaching profession. Except in those States which require a minimum of academic and professional training, completion of the elementary grades, with some additional study in one or more professional and sometimes one or more of the newer elementary or secondary subjects also, enables one to become a teacher. Much depends on the examining authorities in the way of setting up standards in these States. But even at the best they are very low.

It is also relatively easy in many States to remain teaching indefinitely without specified professional or academic preparation. Unless special regulations to the contrary are made in the form of prerequisites to entrance to examinations or unless professional preparation is required for the renewal of certificates, this may result. In some

cases life certificates, or, if not so called, certificates continuously renewable or exchangeable, and hence practically of the same significance, may be obtained without such requirements. These conditions prevail in the following 14 States: Alabama, Arizona, Arkansas, Colorado, Louisiana, Kansas, Kentucky, Mississippi, Nebraska, New York, Pennsylvania, Rhode Island, South Dakota (until 1921), and Texas. In at least 5 other States life certificates may be issued on examination without educational prerequisites higher than high-school graduation or 12 weeks of professional preparation.

There are 29 States which either do not issue certificates designated as for "life," or in which nominally some higher education is required for them. However, equivalency examinations or possibility of continuous renewals on requirements more or less indefinite probably nullify the apparent requirement in many cases.

Among the States which have recently reorganized their laws concerning certification there is a noticeable tendency to enact those whose purpose is to increase gradually the minimum scholarship requirements exacted. The Delaware law recently enacted is a good example. The lowest grade certificate granted on examination is to be discontinued after 1930; the next lowest, which requires high-school graduation and six weeks of professional training, is to be discontinued in 1935. The lowest certificate recognized thereafter requires graduation from a two-year normal school in addition to the completion of a four-year high school. The West Virginia law is based on the same plan, increasing qualifications up to 1926 and permitting the State board to regulate them thereafter. Such an arrangement makes it possible to increase requirements for certificates without depleting the supply of teachers. In some States the practice of formulating a law in such a way as gradually to increase the requirements extending over a period of several years applies to other than the lowest grade of certificate. Delaware, West Virginia, Wisconsin, and South Dakota are among the States which passed increasing requirement laws in the 1919 session of their legislatures. The following excerpts from the South Dakota law are given here to illustrate this practice:

No teacher shall be entitled to receive more than two third-grade certificates: *Provided*, That from and after the 1st day of September, 1920, every applicant for a third-grade certificate, by examination or otherwise, must present evidence of having attended an approved normal school or some other school having a normal department approved by the superintendent of public instruction six weeks in the aggregate.

Provided, That from and after September 1, 1921, every applicant for life diploma, by examination or otherwise, must present evidence of having attended an approved normal school or educational department of an approved college or university 24 weeks in the aggregate.

Provided further, That from and after September 1, 1920, every applicant for State certificate, by examination or otherwise, must present evidence of having attended an approved normal school or educational department of an approved college or university 18 weeks in the aggregate.

PROVISIONS FOR RENEWING LOW-GRADE CERTIFICATES.

Various expedients are used to prevent one person teaching too long on the lowest-grade certificate. It is a common practice to issue a limited number of these certificates, and generally they are not subject to renewal. In some States the holders of lower-grade certificates are eligible to positions only when the supply of teachers with higher-grade certificates is exhausted. Delaware and Maryland are examples of such States. Rhode Island requires the holder of the lowest-grade certificate to qualify for a higher grade within two years. Other methods used are to require applicants for renewals to attend summer schools for teachers or to obtain a minimum amount of professional training before the application is granted.

Full information concerning renewal of the lowest grade of certificates is given on page 29. A few States do not grant any third-grade certificates. Utah does not renew second-grade certificates, expecting the holder to qualify for a higher grade. Nevada renews neither second nor third grade certificates. Twelve other States renew only on condition that the applicants acquire additional professional training. Five other States prescribe requirements or demand the completion of reading-circle work, making in all 34 States which either do not renew certificates of the lowest grade or make it necessary to have some professional training as well as experience before renewal. Nine States renew on experience only. One makes renewal dependent upon the standing in examination. In one State, renewal depends on recommendation of the superintendent in charge, and in one, professional spirit and required reading are necessary. Five States limit the number of certificates of the lowest grade which are issued or renewed. Indications are that the most advanced steps toward raising the qualifications of teachers, as measured by the certificates granted, are being taken in those States in which the whole matter is under the control of the State and that county and local authorities are more lax in their requirements.

SUMMARY OF RENEWAL REQUIREMENTS.

Successful experience only: Maine, Rhode Island, Alabama, Missouri,⁴ Wyoming, Oregon, New Hampshire,⁵ Arkansas.

Consecutive experience: Kentucky.

Discretion of board: Massachusetts, Connecticut, Ohio, California.

Standing in examination only: Michigan.

Recommendation of superintendent: Vermont.

Prescribed requirements: New York, Tennessee.

Reading: North Carolina, Wisconsin,⁴ North Dakota,⁴ Iowa.⁴

Institute attendance: Oklahoma.⁴

Attendance at professional schools or college work: New Jersey, Delaware, Maryland, Virginia, Florida, Oklahoma,⁴ Illinois, Wisconsin,⁴ North Dakota,⁴ Utah, Idaho, Washington.

⁴ See also other regulations.

Not renewable: West Virginia, New Hampshire,⁵ South Carolina, Georgia, Massachusetts, Louisiana, Texas, Indiana, Minnesota,⁵ South Dakota, Nebraska, Kansas, Montana, Colorado, New Mexico,⁴ Nevada,⁴ Arizona.

Limited number of times: Michigan,⁴ Missouri,⁴ Washington.⁴

Professional spirit; required reading: Iowa.⁴

Limited issue: New Mexico,⁴ Nevada.⁴

REGULATIONS CONCERNING RENEWAL AND REISSUANCE OF CERTIFICATES OF LOWEST GRADE (SUCCESSFUL TEACHING REQUIRED WHETHER MENTIONED OR NOT.)

States.	Renewal regulations.
N. Atlantic Div.:	
Maine.....	Renewable on successful experience.
New Hampshire ...	Permits not renewable. Elementary license one or three years.
Vermont.....	Recommendation superintendent.
Rhode Island.....	Four years, then six years' successful experience.
Massachusetts.....	Discretion of board or committee.
Connecticut.....	Discretion of committee.
New York.....	Prescribed conditions.
New Jersey.....	Once. Required credits.
Pennsylvania.....	May teach five terms only on provisional certificate.
S. Atlantic Div.:	
Delaware.....	Second and third grade—professional preparation.
Maryland.....	Third grade on completion prescribed professional training. No teacher holding this certificate may be engaged unless supply of higher certificated teachers is exhausted.
Virginia.....	Second grade—summer school attendance or equivalent.
West Virginia.....	Not renewable.
North Carolina.....	Reading circle work.
South Carolina.....	Third grade not renewable. Second grade at option of board.
Georgia.....	Nonrenewable.
Florida.....	Second and third grades—attendance at professional school.
S. Central Div.:	
Kentucky.....	Consecutive experience.
Tennessee.....	Prescribed requirements.
Alabama.....	Limited number of times.
Mississippi.....	Not renewable.
Louisiana.....	Not renewable. Second and third grade certificates for one year through application of summer school credits.
Texas.....	Not renewable.
Arkansas.....	Second grade twice. Third grade once.
Oklahoma.....	Summer school and institute attendance. Renewed once.
N. Central Div.:	
Ohio.....	Not renewable.
Illinois.....	Second grade renewable first time after 6 months' additional professional training, second time 18 weeks' professional training.
Michigan.....	Once only. Average must be 85.

⁴ See also other regulations.

⁵ Permits These seem to partake of the nature of both temporary and third-grade certificates. In New Hampshire the next lowest certificate may be renewed. In Minnesota the next lowest certificate must be exchanged for the next higher grade.

States.	Renewal regulations.
N. Central Div.—Continued.	
Wisconsin.....	Attendance at professional school. Reading circle course.
Minnesota.....	Permits nonrenewable. Limited rural elementary may be exchanged for second-class certificate under certain regulations.
Iowa.....	Second and third grade certificate renewed. Professional spirit and prescribed reading.
Missouri.....	Second and third grade renewable once. Not more than four of the latter granted.
North Dakota.....	Reading circle work and six weeks at professional school.
South Dakota.....	Not renewable.
Nebraska.....	Not renewable.
Kansas.....	Not renewable.
Western Div.:	
Montana.....	Not renewable.
Wyoming.....	Renewable once.
Colorado.....	Not renewable.
New Mexico.....	Not renewable. Not more than two issued to any person.
Arizona.....	Not renewable.
Utah.....	Third grade renewable for prescribed work of college grade. Second grade not renewable, must fulfill requirements for higher grade certificate.
Nevada.....	Second and third grade not renewable. Not more than one third-grade granted to any person.
Idaho.....	Six weeks at summer school for teachers.
Washington.....	Renewed twice for attendance at professional school.
California.....	Option of board.
Oregon.....	Six months' experience.

RECIPROCAL RELATIONS AMONG STATES.

On pages 32 to 35 are given excerpts from State laws or regulations concerning the recognition of certificates from other States and diplomas and credits from institutions located in other States. The following States do not recognize certificates granted in other States: Colorado, Connecticut, Massachusetts, New Hampshire, Ohio, Oklahoma, North Dakota, West Virginia, Louisiana, and Florida. Of these, Colorado, New Hampshire, Florida, North Dakota, West Virginia, Ohio, and Louisiana recognize graduation or credits from standard institutions outside the State. It therefore follows that, while certificates issued on credentials from such institutions would not be recognized in these States, other certificates could be issued on the basis of recognized credentials, provided the requirements are met.

Connecticut is the only State which issues certificates wholly on the basis of examination and does not accept credits from institutions either within or without the State. Generally, State laws require that institutions whose credits are recognized toward certification shall exact entrance requirements and maintain standards equivalent to those within the State. Nearly all the States which recognize outside institutions keep lists of those "accredited" or "approved."

Full reciprocal relations do not exist even among those States which recognize certificates from other States under certain conditions. Idaho, Kansas, Maine, Montana, New York, North Carolina, and Rhode Island recognize only State certificates or those issued by State departments or State officers. Michigan, Nevada, Nebraska, Indiana, New Jersey, and Utah accept State life certificates only from other States. New Mexico and Washington give credit, subject for subject, if accredited by State departments, and New Mexico and Nebraska require in addition that reciprocal relations shall have been established with the other State. In Wisconsin and Utah two years' experience within the State is required before outside certificates are recognized. Credentials from colleges and universities are more generally recognized than are those from normal schools. Many certificates based on normal school graduation are granted by schools themselves or their boards of control, and their validity is confined to the State.

The following States recognize for or toward certification graduation from "approved," "acceptable," "accredited," "reputable," or "equivalent" institutions: Florida, Georgia, Idaho, Illinois, Indiana, Kansas, Louisiana, Maine, Missouri, Maryland, Massachusetts, Minnesota, Mississippi, Montana, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Dakota, North Carolina, Oregon, Ohio, Pennsylvania, Rhode Island, South Dakota, Tennessee, Texas, Utah, Vermont, Virginia, West Virginia, Wisconsin, Wyoming, Colorado, Delaware, Arkansas, Arizona, California, Iowa, and South Carolina—42 in all. Kentucky, Oklahoma, and Washington specify "State institutions" in the scholarship requirements for certificates. The regulations for Alabama do not state whether institutions outside the State are recognized or not. Michigan recognizes State institutions only, except for special certificates. Connecticut requires an examination.

SUSPENSION AND REVOCATION OF CERTIFICATES.

Table 19 presents the most essential provisions of the laws of different States concerning the suspension and revocation of certificates. The grounds upon which this action is taken are similar in all States, and the right of appeal is generally given as protection to the teacher against injustice. The officers empowered to revoke certificates are usually those who issue them, and appeals are taken to superior boards or officers.

FEES AND MINIMUM AGE REQUIREMENTS.

Information concerning fees, when they are required; the disposal of the money so collected; and minimum age requirements, when there are any, are given in Table 20. A few States do not specify

any age minimum. A number require the applicant for a certificate to be at least 18 years of age.

Thirty States require fees ranging from 50 cents to \$10. Usually the higher fees are charged for the higher grades of certificate. The other 18 States require no fee. The money collected from fees is used in the majority of States to pay for administering the certification department or for the support of teachers' institutes.

A DIGEST OF THE LAWS AND REGULATIONS BEARING UPON THE RECOGNITION OF DIPLOMAS AND CERTIFICATES IN EACH OF THE STATES.

Alabama.—Recognizes other State certificates of equivalent requirements and standard institutions.

Arizona.—Accepts credits from institutions outside of the State as a basis for certification. Recognizes certificates from other States if qualifications are equivalent to those demanded in Arizona.

Arkansas.—State and professional licenses based on certificates from other States and degrees from the credited institutions outside the State will be recognized if applicants have at least 12 months' experience, in case State certificates are desired, and 6 months' experience if professional licenses are desired.

California.—Recognizes life diplomas or certificates from other States if they represent experience and scholarship equivalent to California requirements. California also keeps a list of recognized institutions of other States which meet the approval of the State board as satisfying requirements for California certificates.

Colorado.—Does not recognize certificates from other States. College credits and degrees are recognized under the same conditions, whether obtained from institutions within or without the State.

Connecticut.—Does not recognize certificates from other States, or college or normal school diplomas or certificates.

Delaware.—Certificates issued by other States will be accepted which indicate qualifications equal to or superior to those demanded for securing certificates in this State. Also credits from standard institutions are accepted.

Florida.—Does not recognize certificates from other States. A courtesy temporary certificate may be issued to holders of certificates from other States for a period of 2 months, during which time the applicant must qualify for a Florida certificate. Graduation from standard institutions is recognized.

Georgia.—Teachers holding certificates granted in another State which are the equivalent of requirements in Georgia are granted equivalent certificates. Approved institution's credits are recognized for certification, but applicant must be examined in Georgia history, geography, and school law.

Idaho.—The State board of education issues Idaho State certificates to graduates of State normal schools and colleges of other States if said institutions are approved by the State board of education. The State board may also indorse State life certificates from other States. All applicants must be engaged in teaching within 2 years of the date of application, have at least 18 months' experience and credit in examination in Idaho school law and course of study.

Illinois.—The State superintendent of public instruction and the county superintendent of schools may recognize and honor any certificate from another State obtained under conditions similar to those in Illinois. Institutions outside State recognized on the same basis as those within it.

Indiana.—The State superintendent countersigns life State certificates from other States of equivalent requirements. Also recognizes training in higher institutions of other States for certificates.

Iowa.—Each individual application is decided on its merits. A new certificate is issued to the holder of a certificate from another State if the conditions warrant the recognition of the certificate presented for that purpose. Iowa also recognizes training in approved colleges of other States for certification.

Kansas.—The State board of education recognizes State certificates issued in other States secured by fulfilling demands equivalent to those of Kansas.

Kentucky.—State board of education may validate certificates of other States which are not of a lower standard than the State certificate of Kentucky, and may approve or disapprove such certificates of qualification as may be recognized by county superintendents and county boards of education in this State. The State board of education is authorized to validate State diplomas and certificates from other States on a reciprocity plan.

Louisiana.—Teachers' certificates of other States are not recognized in Louisiana. Baccalaureate graduates of State approved colleges and State approved normal schools of other States are issued first-grade certificates in Louisiana upon presentation of their diplomas accompanied by a \$5 recordation fee.

Maine.—Certificates may, under the rules prescribed by the State superintendent, be granted to persons holding State certificates granted by authority of other States. Recognizes institutions outside the State of equal standing with those within as a basis for certification.

Maryland.—The conditions under which certificates, diplomas, and degrees of institutions of the State of Maryland and of other States will be recognized shall be determined by the State superintendent of schools.

Massachusetts.—No legal provision for reciprocity in the issuance of certificates. Colleges outside State with standards equal to those within are recognized on same basis for certification.

Michigan.—The State board of education may in its discretion recognize life State certificates from other States if the requirements are equivalent to those demanded in Michigan. Grants special certificates on basis of credits from institutions outside the State.

Minnesota.—The State superintendent may accept or indorse certificates from other States on such conditions as he may prescribe. Also recognizes for certification credits from institutions outside State with standards equivalent to those of University of Minnesota.

Mississippi.—To persons holding a certificate, license, or diploma with qualifications equal to those of Mississippi, authorizing them to teach in another State, a first-grade license shall be granted to be valid for a length of time granted in original State. Recognizes credits from approved institutions having four-year course.

Missouri.—Certificates from States other than Missouri which are based on requirements equal to those of Missouri, and graduation from schools outside of Missouri whose standards are equal to those of the schools of Missouri, are recognized.

Montana.—Teachers with successful experience of at least 35 months, who have obtained from State departments of other States by means of examination certificates good in all schools of the State in which issued and valid for at least 5 years, may obtain Montana certificates if the requirements were fully equal to those of Montana. Graduates of advanced normal courses in institutions equivalent to those in Montana, whose diplomas entitle them to teach without examination in all of the schools of the State where located, who have taught successfully 18 months, at least 9 of them after graduation, are eligible to Montana State certificates and life diplomas.

Nebraska.—Certificates or diplomas conferring the right to teach for life in other States are accepted in Nebraska. Also grades earned in State examinations that meet the requirements of Nebraska are accepted, if the States have reciprocal rela-

tions with this State. Recognize credits from standard colleges outside the State if applicant has experience in Nebraska.

Nevada.—Credentials showing graduation from schools of other States whose requirements are equal to those of Nevada shall be accepted in lieu of examination. Life certificates may also be submitted as evidence of fitness of teaching, and if they are satisfactory to the State board of education they may issue a certificate valid in Nevada for such grade as they may deem proper.

New Hampshire.—Laws do not allow reciprocity. Diplomas from normal schools equal to those of New Hampshire may be accepted if applicant files experience and passes examination in New Hampshire school law and program of studies.

New Jersey.—New Jersey recognizes diplomas from normal schools of another State which require equivalent work and entrance requirements to the New Jersey State normal schools. Also indorses permanent State certificates granted in another State if the requirements are equivalent to life certificates in New Jersey. It also recognizes completion of courses in approved colleges, universities, or technical schools as credit toward certification.

New Mexico.—Certificates from other States, if valid, may be credited subject for subject if questions on which certificate is granted were prepared and all papers graded by a State department of education in the State issuing certificate, provided the State accepts like grades granted by New Mexico. Credits from colleges of recognized standing with North Central Association are recognized on same basis as those in the State.

New York.—The commissioner of education may in his discretion indorse (1) a diploma issued by a normal school of another State, (2) a certificate issued by the chief education officer or State board of another State. Such indorsement confers on the holder of such diploma or certificate the privileges conferred by law on the holder of a normal school diploma or State certificate issued in this State. Credits recognized from institutions registered by regents of the State of New York.

North Carolina.—Certificates are issued to persons who hold State certificates of other States requiring qualifications equivalent to those required in North Carolina and who pass an examination in North Carolina history and school law. Credits from standard institutions outside the State recognized on same basis as from those within.

North Dakota.—Recognizes credits of institutions outside the State as a basis for North Dakota certificates.

Ohio.—State has no law recognizing certificates from other States. Recognizes credits from approved institutions as basis for certification.

Oklahoma.—No provision to holders of State certificates from other States or credits from institutions in other States.

Oregon.—Certificates issued upon examination by other States shall be accepted by the superintendent of instruction for corresponding certificates upon certain conditions and equivalent credits for any subject or subjects may be accepted. Also credits for teaching experience and credits from standard institutions outside the State.

Pennsylvania.—State superintendent of public instruction may validate in Pennsylvania teachers' certificates issued by other States or by State normal schools or colleges of other States whose requirements are equivalent to those of this Commonwealth. Recognizes all institutions approved by Pennsylvania college and university council.

Rhode Island.—Interstate comity is practiced. The State department does not indorse certificates from other States or grant Rhode Island certificates on certificates from outside the State. It does not recognize certificates from out of the State in any way, unless the certificates have been issued by State officers. When certificates issued by the State department are presented, an attempt is made to evaluate the qualifications mentioned in the certificates in terms of Rhode Island requirements, and credit is granted accordingly. Diplomas issued by institutions outside the States

are accepted as reasonable proof of what they attest, if the institution granting the diploma is reputable.

South Carolina.—The State board of education will grant certificates on presentation of diplomas from reputable colleges and universities of as high rank as those in South Carolina when accompanied by the scholastic record and teaching experience of the applicant. The same board confirms State certificates from other States when the qualifications demanded are equivalent to those demanded in South Carolina, provided that such States grant reciprocal credit to South Carolina State licenses.

South Dakota.—Diplomas from other States may be accepted in lieu of subjects required for a life diploma. The State superintendent may validate certificates issued by other departments of education which are of the rank of the life diploma, State certificate, and first and second grade certificates issued in South Dakota, provided the requirements upon which they are based are equivalent to the requirements for corresponding certificates in South Dakota. Recognizes credits from all approved institutions of equal rank with those of South Dakota.

Tennessee.—Certificates from other States whose standards of normal school admission and graduation are no lower than that of this State are validated. Reciprocal certification relations are maintained with most of the Southern States.

Texas.—Holders of diploma from a State normal college or of a life certificate in another State upon becoming a citizen of Texas, may receive a Texas permanent certificate provided the requirements are equal to those of Texas. Diplomas from colleges or universities recognized by the State superintendent of public instruction upon recommendation of the State board of examiners may be accepted as qualification for a State life certificate.

Utah.—Certificates and diplomas issued in other States may be recognized in Utah, provided they are granted on standards equal to Utah requirements. Institutions issuing diplomas must be of standard grade.

Vermont.—Reciprocity with other States may be established by the commissioner of education. Applicants must have at least 30 weeks' teaching experience. Recognized graduates from normal schools or colleges in other States are eligible for certificates, on the same terms as are graduates from Vermont institutions.

Virginia.—Certificates from States other than Virginia, which are not local and which represent training equivalent to that required for Virginia State certificates and satisfactory experience, are recognized as certificates to teach. All standard colleges are recognized for credits toward certification.

Washington.—Credits of 90 per cent or over on examination in other States, when papers are graded by State departments, are accepted, subject for subject, in accordance with the rules and regulations of the State board of education. The State board of education recognizes only grades earned in Washington institutions.*

West Virginia.—This State does not recognize certificates from other States. It does recognize credentials from institutions outside of the State which are accredited by the State boards of education on the basis of equivalent work to that done by institutions within the State.

Wisconsin.—Holders of certificates from other States may receive Wisconsin unlimited State certificates, provided certificates held are equivalent in required qualifications to the Wisconsin certificate. Applicants must have two years' experience in Wisconsin before this certificate can be made permanent. Also recognizes for certification courses given in institutions whose standards are equivalent to those of Wisconsin institutions.

Wyoming.—Recognizes credits from standard institutions in other States as basis for certificates, and certificates from other States when requirements meet the requirements for Wyoming certificates.

*The law of Washington provides that the State board of education may recognize credits earned in institutions outside the State toward certification. According to present practice apparently the board does not do so.

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STATE LAWS AND REGULATIONS CONCERNING TEACHERS' CERTIFICATES.

ALABAMA.

Name of certificate.	Issued by—	Valid in—		Duration.	Persistence.	Experience required.	Questions.		Scholarship requirements.
		Territory.	Schools.				Prepared by—	Examined by—	
Life certificate.....	State board of education.	In State....	All schools....	For life.....	.....	5 years' tenure of first-grade certificate, 40 months teaching on first-grade certificate.	Division of teacher training and certification.	Division of teacher certification.	(1) Examination same as for
First-grade certificate (without examination).	.....do.....	.....do.....	.....do.....	6 years.....	Extended 1 year on professional study and reading circle study.	.....	.....	.....do.....	.....
First-grade certificate (with examination).	.....do.....	.....do.....	.....do.....	.....do.....	May be renewed for 1 year at a time; not more than 4 years.	.....	Division of teacher training and certification.	.....do.....	.....
Second-grade certificate.	.....do.....	.....do.....	.....do.....	4 years.....	.....do.....	.....	.....do.....	.....do.....	.....

State laws and regulations concerning teachers' certificates—Continued.

ALABAMA—Continued.

Name of certificate.	Issued by—	Valid in—		Duration.	Persistence.	Experience required.	Questions.		Scholarship requirements.
		Territory.	Schools.				Prepared by—	Examined by—	
Third-grade certificate.	State board of education	In State.	All schools.	2 years.	May be renewed for 1 year at a time; not more than 4 years.		Division of teacher training and certification.	Division of teacher certification.	
Certificate or qualification to teach (validation of certificates issued in other States).	do.	do.	do.	Same as original or at the discretion of the State board.	Discretion of State board.				

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or city superintendent, is not renewable, and is valid in Alabama or any other State, nor to a except that a license of lower grade than the one

quire graduation from a standard college as a condition precedent to the issuance of a first-grade second-grade license; and of graduation from a standard high school employing three or more teachers who license; except that the holder of an Alabama license who has discontinued teaching for valid grade as the one last held.

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ay, in the discre-

ARIZONA.

Life certificate.	State board of education.	State.	All.	Life.		15 years.	State board of examiners.	State board of examiners.	Holders of first-grade certifi-
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Special certificate: Music, drawing, agriculture, commercial sub- jects, kindergarten, manual training, house- hold arts.	State board of examiners.do.....	Special sub- jects only.	4 years.....	Renewable for 4 years.	Name.....	do.....	do.....	Examination with an average of not less than 80 per cent, or creditably in the special subject applicant wishes to teach.
First-grade certifi- cate (without examination).	.....do.....	do.....	All.....	do.....	Renewable for 1 year on 2 years' suc- cessful teaching.	Nons or (by (d) 2 years).	do.....	do.....	
First-grade certifi- cate (on exami- nation)	.....do.....	do.....	do.....	do.....	do.....	do.....	do.....	do.....	
Primary certificate	.....do.....	do.....	Primary schools.	do.....	Renewable for 4 years.	do.....	do.....	do.....	

State laws and regulations concerning teachers' certificates—Continued.

ARIZONA—Continued.

Name of certificate.	Issued by—	Valid in—		Duration.	Persistence.	Experience required.	Questions.		Scholarship requirements.
		Territory.	Schools.				Prepared by—	Examined by—	
Second-grade certificate.	State board of examiners.	State.....	C o m m o n schools.	2 years.....	Nonrenewable	.....	State board of examiners.	State board of examiners.	Examination same as for first.

farm mechanics.

Applicant for special subject certificates by examination must hold a first or second grade certificate, or take regular examination in the additional subjects required for them.

ARKANSAS.

Name of certificate.	Issued by—	Valid in—		Duration.	Persistence.	Experience required.	Questions.		Scholarship requirements.
		Territory.	Schools.				Prepared by—	Examined by—	
State certificate	State superintendent.	In State...	All schools....	Full life....	.....	(a) 20 months. (b) 12 months.	State superintendent.	State superintendent.	per cent on all subjects is required Average, 60 per cent. (b) Degree from accredited institutions.

Life diploma for elementary schools.	do.	do.	do.	Elementary schools.	do.	do.	do.	do.	Same as free life diplomas for high schools.
Life diploma for kindergarten and primary schools.	do.	do.	In kindergartens and primary grades.	do.	do.	do.	do.	Do.	
Life diploma special.	do.	do.	Branches and grades named in certificate.	do.	do.	do.	do.	Do.	
High school certificate. ¹	County board of education.	In the county.	Secondary or elementary schools.	0 years ¹ .	Renewable at the option of the county board. May be permanent after 5 years' experience; second renewal is permanent.	17 months or more.			

✓LEAD BY EXAMPLE IN ORDER

¹ The State board of education issues "credentials" for certificates at its discretion. Credentials for high-school certificates are issued to applicants having the equivalent of a diploma of graduation from University of California and 1 year graduate work courses, including a prescribed amount of pedagogy. Credentials for elementary certificates are issued to those who have the equivalent of a diploma of graduation from a California State normal school or life diploma or certificate from another State.

² Any certificate granted to a candidate who has not had at least 1 year of experience shall not be valid for longer periods than 2 years.

Any certificate granted to a candidate who has not had at least 1 year of experience shall not be valid for longer periods than 2 years.

State laws and regulations concerning teachers' certificates—Continued.

ALABAMA—Continued.

Name of certificate.	Issued by—	Valid in—		Duration.	Persistence.	Experience required.	Questions.		Scholarship requirements.
		Territory.	Schools.				Prepared by—	Examined by—	
Third-grade certificate.	State board of education	In State...	All schools....	2 years.....	May be renewed for 1 year at a time; not more than 4 years.	.....	Division of teacher training and certification.	Division of teacher certification.	
Certificate of qualification to teach (validation of certificates issued in other States).	do.....	do.....	do.....	Same as original or at the discretion of the State board.	Discretion of State board.	

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not renewable, and is not subject to extension.
by other State, nor to any applicant who has been rejected on a regular examination except that a license of lower grade than the one applied for on such examination may, in the discre-

quire graduation from a standard college as a condition precedent to the issuance of a first-grade second-grade license; and of graduation from a standard high school employing three or more teachers side license; except that the holder of an Alabama license who has discontinued teaching for valid grade as the one last held.

ARIZONA.

Name of certificate.	Issued by—	Valid in—		Duration.	Persistence.	Experience required.	Questions.		Scholarship requirements.
		Territory.	Schools.				Prepared by—	Examined by—	
Life certificate.....	State board of education.	State.....	All.....	Life.....	.....	15 years.....	State board of examiners.	State board of examiners.	Holders of first-grade certifi-

Special certificate: Music, drawing, agriculture, commercial sub- jects, kindergarten, manual training, house- hold arts.	State board of examiners.	.....do.....	Special sub- jects only.	4 years.	Renewable for 4 years.	None.	do.	do.	Examination with an average of not less than 80 per cent, or credentials in the special subject applicant wishes to teach.
First-grade certifi- cate (without examination).	.....do.....	.....do.....	All.	do.	Renewable for 4 years on 2 years' suc- cessful teaching.	None or (by (d) 3 years).	do.	do.	
Primary certificate	.....do.....	.....do.....	Primary schools.	do.	Renewable 4 years.		do.	do.	

State laws and regulations concerning teachers' certificates—Continued.

ARIZONA—Continued.

Name of certificate.	Issued by—	Valid in—		Duration.	Persistence.	Experience required.	Questions.		Scholarship requirements.
		Territory.	Schools.				Prepared by—	Examined by—	
Second-grade certificate.	State board of examiners.	State.....	C o m m o n schools.	2 years.....	Nonrenewable	.....	State board of examiners.	State board of examiners.	Examination same as for first.

ARKANSAS.

Name of certificate.	Issued by—	In State...	All schools...	For life.....	(a) 20 months (b) 12 months	State superintendent.	State superintendent.	State superintendent.	Scholarship requirements.
State certificate.	State superintendent.								cert. (b) Degree from accredited institution.

Professional license	do	do	do	6 years	Renewable on compliance with rules of State superintendent based on reading course and successful teaching.	(a) None. (b) 6 months.	do	do	(a) Expiration same as required for first-grade license and in addition in algebra,
Normal training certificate.	do	do	do	(a) 2 years. (b) 6 years.	Based on compliance with regulations of State board.	(a) None. (b) 12 months	do	do	
State normal school diploma University of Arkansas degree.	do	do	do	6 years. do	Renewable for life. do		do	do	
County license of the first grade. ¹	In county.	do	do	2 years.	Renewable indefinitely for Institute attendance		State superintendent	County superintendent.	
State first-grade certificate.	State.	do	do	do	Renewable indefinitely.	Same as first-grade county certificate and 12 months in addition.	do	State superintendent.	
Rural school certificate. Special State certificate.	do	Rural schools.	do	do		None.	do	do	
	do	Special subjects.	do	Discretion of board.			State board.	State board.	

¹ A county first-grade certificate may be made State wide when the papers are reviewed by the State superintendent. It is good in the State for the period issued.

State laws and regulations concerning teachers' certificates—Continued.

ARKANSAS—Continued.

Name of certificate.	Issued by—	Valid in—		Duration.	Persistence.	Experience required.	Questions.		Scholarship requirements.
		Territory.	Schools.				Prepared by—	Examined by—	
Special subjects certificate.	County superintendent.	In county.	Special subjects only.	2 years.					
County license of second grade.	do.	do.	All schools.	1 year.	Renewable twice.		State board.	State board.	
County license of third grade.	do.	do.	do.	6 months.	Renewable once.		do.	do.	

CALIFORNIA.

Life diplomas for high schools.	State board of education.	In the State.	High schools or grammar schools.	Life.		48 months, 21 months of which is in California schools.			Issued to those who have held for 1 year a valid county or board of education under whom the applicant has taught.
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Life diploma for elementary schools.	do.	do.	Elementary schools.	do.	do.	do.	do.	do.	do.	Same as for life diploma for high schools.
Life diploma for kindergartens and primary schools.	do.	do.	In kindergartens and primary grades.	do.	do.	do.	do.	do.	Do.	
Life diploma special.	do.	do.	Branches and grades named in certificate.	do.	do.	do.	do.	do.	Do.	
High school certificate. ¹	County board of education.	In the county.	Secondary or elementary schools.	5 years. ²	Renewable at the option of the county board. May be permanent after 5 years' experience; second renewal is permanent.	17 months or none.				

¹ The State board of education issues "credentials" for certificates at its discretion. Credentials include diploma of graduation from University of California and 1 year graduate work courses, including a diploma of graduation from a California State normal school.

² Any certificate granted to a candidate who has not had at least 1 year of experience shall not be

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are

State laws and regulations concerning teachers' certificates—Continued.

CALIFORNIA—Continued.

Name of certificate.	Issued by—	Valid in—		Duration.	Persistence.	Experience required.	Questions.		Scholarship requirements.
		Territory.	Schools.				Prepared by—	Examined by—	
Elementary school certificate.	County board of education.	In the county.	Elementary schools and 2 years intermediate schools. If holder completed 3 years work in college and one year normal course he may teach 3d grade of intermediate schools, or 9th grade.	6 years.....	Renewable at the option of the county board. May be permanent after 6 years' experience; second renewal is permanent.	8 months or none. 12 months. 4 years.	County board of education.	County board of education.	On examination (a) and (b).

State normal school in the State; (3) to applicants hav-

Kindergarten pri- mary certificate.	do.	do.	do.	do.	1 year.	
Special certificate. 1. Elementary. 2. Secondary: Manual and fine arts, technical arts, com- merce, in- dustrial cul- ture, music, miscella- neous (as citizenship, oral and dire- ctive ex- pression, li- brary craft).	do.	do.	do.	do.	do.	
Kindergarten and primary schools.	do.	do.	do.	do.	do.	
Special branches only in- 1. Element- ary grades. 2. All ele- mentary grades.	do.	do.	do.	do.	do.	
County super- intendent.	In the county.	6 months.	do.	do.	do.	Only one to any appi- cant in same county.
Temporary sec- ondary certifi- cate.						

* At least 3 years experience as a journeyman or its equivalent is required as a minimum for any vocational certificate.

State laws and regulations concerning teachers' certificates—Continued.

CALIFORNIA—Continued.

Name of certificate.	Issued by—	Valid in—		Duration.	Persistence.	Experience required.	Questions.		Scholarship requirements.
		Territory.	Schools.				Prepared by—	Examined by—	
Temporary elementary certificate.	County superintendent.	In the county.	Elementary schools.	6 months.	Only one to any applicant in same county.				(1) Issued to holders of valid certificates in other counties; (2) to holders of credentials from normal schools; and (3) to holders of State board
Temporary kindergarten certificate.	do.	do.	Kindergarten.	do.	do.				(1)
Temporary special certificate, Attendance officer certificate.	do.	do.	Special subjects only.						board. Same as above.
Health and development certificate.	County board.	do.							Issued on special credentials issued by State board of education.
	do.	do.							Issued on special credentials issued by State board of education. Applicants must
									nurse from State board of health.

* California normal schools or those on list of schools accredited by the State board.

NOTE.—Preliminary certificates are given to teachers in training, who receive no salary. These are good for 2 years.

COLORADO.

Name of certificate.	Issued by—	Valid in—		Duration.	Persistence.	Experience required.	Questions.		Scholarship requirements.
		Territory.	Schools.				Prepared by—	Examined by—	
State teachers' college and normal school diploma.	Governing board of State teachers' college.	In State.	All schools.	For life.		None.			Applicant must have diploma granted on completion of a course in the State teachers' college or State normal school, at least 2 years in addition to a 4-year high-school course.

State diploma without examination.	State board of education.	do.	do.	5 years	Renewable for 5 years in discretion of State board of education; then renewable for life.	24 months	State board of examiners.	State board of examiners.	Requirements determined by district board.
Upon examination.	do.	do.	do.	do.	do.	do.	do.	do.	
Without examination.	do.	do.	do.	do.	do.	6 years' employment educational service in Colorado.			
Temporary certificate.	do.	do.	do.	do.	Nonrenewable.	None.			
First-grade county certificate.	County superintendent.	In county.	All schools (if accompanied by a high-school certificate).	3 years	Renewable at the option of the county superintendent.	12 months	State superintendent.	County superintendent.	
Second-grade county certificate.	do.	do.	Elementary schools.	15 months	Not renewable.	None.	do.	do.	
Third-grade county certificate.	do.	do.	do.	9 months	do.	do.	do.	do.	
School district certificate (districts of first class).	School district board.	District	All schools.	Varies	Determined by district board.	Varies	Determined by district board.	Determined by district board.	

State laws and regulations concerning teachers' certificates—Continued.
CONNECTICUT.

 Name of
 certificate.

 Statutory cer-
 tificate.

Elementary
 certificate.

Supervision cer-
 tificate.

Kindergarten
 certificate.

Honor certifi-
 cate.

Special ex-
 ceptional
 and special
 teaching
 certificate.

Supervisor's certificate.	do.	do.	do.	do.	Indefinite.	do.	5 years' certificate as supervisor or teacher.	do.	do.	do.
Local high-school certificate.	High-school committee.	In town and district.	High-school branches named.	do.	do.	At discretion of committee.	At discretion of committee.	High-school committee at the time appointed by it.	High-school committee at the time appointed by it.	High-school committee at the time appointed by it.
Local public-school certificate.	School visitors, school committee, or board of education.	do.	In specified schools in branches named.	do.	do.	do.	do.	School visitors, school committee, or board of education.	School visitors, school committee, or board of education.	School visitors, school committee, or board of education.
Special subject certificate in music, home economics, kindergarten and others prescribed by State board.	State board.	State.	Special subjects.	do.	do.	Renewable.	do.	State board.	State board.	State board.

State laws and regulations concerning teachers' certificates—Continued.

DELAWARE.

Name of certificate.	Issued by—	Valid in—		Duration.	Persisten				
		Territory.	Schools.						
Certificate in administration and supervision.	State commissioner of education.	State.....	Administration and supervision in all schools. ¹	3 years.....	Renewable for 3-year periods on evidence of successful experience and professional spirit. .....do.....	5 years as administrator and teacher.	.....	.....	.....
Certificate in elementary school supervision.	.....do.....	.....do.....	Elementary schools. ¹	.....do.....	.....do.....	3 years' experience in elementary schools as supervisor or teacher.	.....	.....	.....
Certificate in special supervision: Physical training, music, fine and applied arts, household arts, manual or industrial training, agriculture. Superintendent of schools' certificate.	.....do.....	.....do.....	Special subjects. ¹	.....do.....	.....do.....	3 years' experience as supervisor or teacher.	.....	.....	for which the certificate is
	.....do.....	.....do.....	Special school districts. ¹	.....do.....	.....do.....	3 years' experience as administrator, principal or teacher.	.....	.....	college grade.

State laws and regulations concerning teachers' certificates—Continued.

DELAWARE—Continued.

Name of certificate.	Issued by—	Valid in—		Duration.	Persistence.	Experiences required.	Questions.		Scholarship requirements.
		Territory.	Schools.				Prepared by—	Examined by—	
Elementary school principals' certificate.	State commissioner of education.	State.....	Elementary schools with 3 or more teachers.	3 years.....	Renewable for 3-year periods on evidence of successful experience and professional spirit.	3 years.....			
Elementary school teacher's certificate: First grade (a)	.....do.....	.....do.....	Elementary schools.	.....do.....	.....do.....	.....do.....			
First grade (b)	.....do.....	.....do.....	Kindergarten and first 3 primary grades of the elementary school.	.....do.....	.....do.....	.....do.....			
Second grade	.....do.....	.....do.....	Elementary schools except those of special school districts.	2 years.....	May be renewed for 2 years after successful experience and 6 weeks' additional professional preparation in a standard institution. Additional renewal on condition as above.	.....do.....	State commissioner of education with the approval of State board of education.	State commissioner of education.	

State laws and regulations concerning teachers' certificates—Continued.

FLORIDA.

Name of certificate	Issued by—	Valid in—		Duration.	Persistence.	Experience required	Questions.		Scholarship requirements.
		Territory.	Schools.				Prepared by—	Examined by—	
State life certificate	State superintendent.	State.....	All.....	Life.....		18 months high school or college teaching within the State under a State certificate.	.....	.....	Applicant must have valid State certificate used in Florida and must show evidence of eminent ability to teach by
Graduate State certificate.	do.....	do.....	do.....	5 years.....	Made life graduate certificate after 24 months' experience and indenturement from 3 persons holding life certificates.		President of institution.	.....	Graduation from a normal or collegiate department of the
Life primary certificate.	do.....	do.....	Primary.....	Life.....		32 months in a school of not less than 4 teachers. (a) 48 months. (b) 20 years, 10 of which are consecutive on 1st grade certificate. (c) 48 months on certificates filed.	.....	.....
First-grade life certificate.	do.....	do.....	All.....	do.....			State board of examiners.	State board of examiners.	more and one of which is valid. (b) Must file with State superintendent valid first-grade certificate and evidence of experience as in column 6. (c) Must file with State superintendent first-grade certificate with three extensions secured by attendance at summer schools.

[illegible]

State board of examiners acting in commission with the State superintendent.

State laws and regulations concerning teachers' certificates—Continued.

FLORIDA—Continued.

Name of certificate.	Issued by—	Valid in—		Duration.	Persistence.	Experience required.	Questions.		Scholarship requirements.
		Territory.	Schools.				Prepared by—	Examined by—	
Special certificates (any subject above those required for the second-grade certificate). Graduate special certificate.	State superintendent. .....do.	State	Special subjects only. .....do.	5 years..... .....do.	Renewable on one year's attendance at summer school. .....do.	.....	State board of examiners.	State board of examiners.	Examination in special branch which applicant wishes to teach.
Second-grade certificate.	.....do.	.....do.	All	3 years.....	.....do.	.....	State board of examiners.	State board of examiners.	
Third-grade certificate.	.....do.	.....do.	.....do.	1 year.....	.....do.	.....	.....do.	.....do.	
Temporary certificates.	.....do.	County or adjoining county.	.....do.	Until next examination.	Until next examination.	None.....	Without examination.	.....

GEORGIA.

Name of certificate.	Issued by—	Valid in—		Duration.	Persistence.	Experience required.	Questions.		Scholarship requirements.
		Territory.	Schools.				Prepared by—	Examined by—	
Professional normal certificate.	State board of education.	In State...	Elementary schools or high schools (see column 4).	3 years.....	Renewable for an indefinite number of 5-year periods if active.	.....	.....	State board of education.	

Professional college certificate.	.....do.....	All schools.....do.....	.....do.....	teaching or supervising, subject to the regulations of the State board concerning attendance at professional school or examination in teaching civics course.	(d) Experience is required. Amount not stated. (e).....do.....

State laws and regulations concerning teachers' certificates—Continued.
 GEORGIA—Continued.

Name of certificate.	Scholarship requirements.
Professional legis certificates	c) Graduates of colleges as

Special subject
 tificate: Me
 manual train
 physical edu
 tion, dome
 science, kin
 garten, comu
 cial, brace
 stenography



County certificates: Primary certifi- cates: Grade 1—80 per cent. Grade 2—75 per cent. Grade 3—60 per cent.	County board of education.	In county.	First grades.	3 years. 2 years. 1 year.	First-grade cer- tificates re- newable on 3 years' expe- rience and completed on of reading course pre- scribed by the State board of edu- cation.	State school commission- er.	County school commission- er.	Examination in reading, writ- ing, spelling, arithmetic (to percentage), language les- sons, composition, elemen- tary geography, and new manual of methods.
General elemen- tary certificate: Grade 1—80 per cent. Grade 2—75 per cent. Grade 3—60 per cent.	do.	do.	Elementary schools.	do.	do.	do.	do.	
High school and supervisory cer- tificate: Grade 1—80 per cent. Grade 2—75 per cent. Grade 3—60 per cent.	do.	do.	High schools.	do.	do.	do.	do.	
Equivalent certifi- cate.	State board of education.	State.	Schools for which issued.	Time for which originally is- sued.	See column 3.			
Temporary profes- sional certificate.	do.	do.	All.	Until next reg- ular exami- nation.				

State laws and regulations concerning teachers' certificates—Continued.

IDAHO.

Name of certificate.	Issued by—	Valid in—		Duration.	Persistence.	Experience required.	State board of education.	State board of education.	other States upon examining.
		Territory.	Schools.						
State life certificate.	State board of education.	State.....	All.....	For life.....	.....	5 years.....	State board of education.	State board of education.	(a) Issued to applicants who
State certificate.....	.....do.....	.....do.....	.....do.....	8 years.....	Renewable at the discretion of the State board of education.	(a) 18 months. (b) 3 years.	.....do.....	.....do.....	other States upon examining.

State laws and regulations concerning teachers' certificates—Continued.

IDAHO—Continued.

Name of certificate.	Issued by—	Valid in—		Duration.	Persistence.	Experience required.	Questions.		Scholarship requirements.
		Territory.	Schools.				Prepared by—	Examined by—	
State life high school certificate.	State board of education.	State.....	In grades 7 to 12 inclusive.	For life.....	.....	21 months or 40 months.	State board of education.	State board of education.	Issued to graduates from an
State high school 5-year certificate.	.....do.....	.....do.....	.....do.....	5 years.....	Not stated....	14 months or 30 months.	.....	.....
State high school 1-year certificate.	.....do.....	.....do.....	.....do.....	1 year.....	May be renewed for 2 years on satisfactory evidence of successful teaching for at least 8 months.	.....	.....	.....

First-grade county certificate.	County superintendent.	County... schools.	Elementary 5 years....	Renewable once if applicant has had 21 months' experience and 18 weeks' professional work in professional school and has received credit for such work.	7 months.....do.....	State superintendent.
Second-grade county certificate.	do.....do.....	do.....do.....	3 years.....do.....	May be renewed if holder has taught successfully not less than 14 months during the life of certificate, and has attended a professional school for teachers at least 6 weeks and received credits in at least two subjects.	7 months.....do.....	do.....do.....

and have attended since receiving such third-grade

NOTE.—A professional school for teachers shall mean a State normal school, a State summer normal school for teachers, a department of education in the State university, or State normal school or teachers' normal institute, maintained under such conditions and restrictions as may be provided by the State board of education.

State laws and regulations concerning teachers' certificates—Continued.

IDAHO—Continued.

Name of certificate.	Issued by—	Valid in—		Duration.	Persistence.	Experience required.	Questions.		Scholarship requirements.
		Territory.	Schools.				Prepared by—	Examined by—	
Third-grade county certificate.	County superintendent.	County.	Elementary schools.	1 year.....	May be renewed if holder attends a professional school for teachers for a period of not less than 6 weeks and receives credits in at least 2 subjects or passes an examination in all the subjects required for a third-grade certificate.	.....	State board of education.	State superintendent.	

NOTE.—No person shall be granted any form of county certificate who has not completed 4 years of high-school work or its equivalent unless he has had 8 months' experience prior to May 1, 1914.

ILLINOIS.

State elementary certificate.	State superintendent.	State.....	Elementary and 2 years of high.	4 years.....	Renewable at expiration for life on evidence of successful experience.	3 years, 2 in State on a first grade certificate.	State examining board.	State examining board.	All of the following: (1) Grad-
Four years' high-school certificate.	do.....	do.....	Elementary and high.	do.....	do.....	3 years' experience, 2 of which are in the State on first-grade certificate, high-school certificate or supervisory county certificate.	do.....	do.....	do.....
Four years' supervisory certificate.	do.....	do.....	Supervision or teaching all grades.	do.....	do.....	3 years, 2 in State on county supervisory certificate.	do.....	do.....	do.....
First-grade elementary school certificate.	County superintendent.	County.....	First 10 grades of common schools and in high schools when ordered for same by county superintendent.	3 years.....	Renewable indefinitely for 3-year periods on evidence of successful teaching experience and professional growth satisfactory to the county superintendent.	(a) 6 months or (b) 1 year.	do.....	do.....	do.....

¹ Illinois normal schools do not require high-school graduation for entrance. Pupils are taken after completion of the tenth grade for certain courses. The word "recognized" as used here means approved by the State superintendent or State examining board.

State laws and regulations concerning teachers' certificates—Continued.

ILLINOIS—Continued.

Name of certificate.	Issued by—	Valid in—		Duration.	Persistence.	Experience required.	Questions.		Scholarship requirements.
		Territory.	Schools.				Prepared by—	Examined by—	
High-school certificate.	County superintendent.	County	High and seventh and eighth grades.	3 years	Renewable indefinitely for 3-year periods on evidence of successful teaching experience and professional growth satisfactory to the county superintendent.		State examining board.	State examining board.	Completion of 2 years in recognition of
Supervisory certificate.	do	do	All	do	Renewable for 3-year periods on evidence of successful teaching or supervision and professional growth.	2 years' teaching or supervising.	do	do	
Second-grade elementary school certificate.	do	do	Elementary grades 9 and 10 when inducted by county superintendent.	2 years	Renewable 6 months' teaching or 12 weeks' professional training.		do	do	

junior year's work in a recognized normal school or its equivalent.									
Kindergarten primary certificate.	do.	do.	Kindergarten and first 2 grades.	do.	Renewable for 2 years on evidence of successful teaching experience.	None.	do.	do.	
Special certificate: Music, drawing, agriculture, manual training, domestic science, physical training, penmanship, bookkeeping, or other subjects authorized by examining board.	do.	do.	Special subjects only.	do.	Renewable for 2-year periods.	Same. Amount not specified.	do.	do.	
Provisional certificate of second and third grades.	do.	do.	Elementary.	1 year.	Nonrenewable.		do.	do.	

NOTE.—Emergency certificates of any grade may be issued by the county superintendent, good in the county, until the next examination. They may be issued to applicants who present to the county superintendent satisfactory evidence of their qualifications for such certificates.

State laws and regulations concerning teachers' certificates—Continued.

INDIANA.

Name of certificate.	Issued by—	Valid in—		Duration.	Persistence.	Experience required.	Questions.		Scholarship requirements.
		Territory.	Schools.				Prepared by—	Examined by—	
Life license.....	State board of education.	In State...	All schools....	For life.....			State board of education.	State board of education.	
Life State license (for college graduates only).	do.....	do.....	do.....	do.....		20 months, 10 of which in Indiana.	do.....	do.....	
Life license by validation.	State superintendent.	do.....	do.....	do.....					
State normal diploma.	State normal school, validated by State superintendent.	do.....	do.....	do.....		2 years.....			

years' successful experience.

(Courses leading to graduation are four years in duration.)

Life certificate.....	State teachers' training board.	do.....	(a) Elementary schools. (b) High schools.	do.....	48 months.....	do.....	State board of education.
Professional license.	State board of education.	do.....	All schools.....	8 years.....	do.....	State board of education.	State board of education.
Provisional certificate: (a) Elementary certificate. (b) High school certificate.	Institution in which course is completed.	do.....	Elementary schools. High schools in certain subjects.	4 years.....	None required.	No examination given.	State board of education.
Provisional special or supervisor's certificate: Drawing, penmanship, manual training, physical culture, domestic science, agriculture, kindergarten.	State superintendent.	do.....	Subjects for which issued.	4 years.....	do.....	do.....	State board of education.

State laws and regulations concerning teachers' certificates—Continued.

INDIANA—Continued.

Name of certificate.	Valid in—		Duration	Persistence.	Experience required.	Questions.		Scholarship requirements.
	Issued by—	Territory				Prepared by—	Examined by—	
Special licenses.....	State board of education.	District schools and small towns.	3 years.....					
Common school license.	State superintendent.	In State.....	12 months. 24 months. 36 months	Provision made for exemption for holders of 36-month license after 6 years' experience if applicant remains in profession.		State board.....	State superintendent of public schools.	Graduation from a special 2-year course for teachers.
Primary licenses. 12 months. 24 months. 36 months	do.....	do.....	12 months. 24 months. 36 months.	do.....		do.....	do.....	branches enumerated above for 12 months' license with
High school licenses. 12 months. 24 months. 36 months	do.....	do.....	12 months. 24 months. 36 months.	do.....		do.....	do.....	
Supervisor's license. 12 months. 24 months. 36 months	do.....	do.....	12 months. 24 months. 36 months.	do.....		do.....	do.....	

State laws and regulations concerning teachers' certificates—Continued.

IOWA.

Name of certificate.	Issued by—	Valid in—		Duration.	Persistence.	Experience required.	Questions.		Scholarship requirements.
		Territory.	Schools.				Prepared by—	Examined by—	
First-grade State certificate upon examination.	State board of examiners.	In State..	All schools....	3 years.....	Renewable for life after 5 years' teaching 3 of which shall have been during the life of said certificate.	2 years.....	State board of examiners.	State board of examiners.	
Second-grade State certificate upon examination.	do.....	do.....	do.....	do.....	do.....	do.....	do.....	do.....	
Primary State certificate.	do.....	do.....	1st, 2d and 3d grades.	do.....	do.....	2 years in 1st, 2d and 3d grades.	do.....	do.....	

First-grade State certificate with- out examination.	.....do.....	.....do.....
	.....do.....	.....do.....
	.....do.....	.....do.....
	.....do.....	.....do.....
	.....do.....	.....do.....
	.....do.....	.....do.....
	.....do.....	.....do.....
	.....do.....	.....do.....
Second-grade State certificate with- out examination.	.....do.....	.....do.....
	.....do.....	.....do.....
	.....do.....	.....do.....
	.....do.....	.....do.....
	.....do.....	.....do.....
	.....do.....	.....do.....
	.....do.....	.....do.....
	.....do.....	.....do.....

No experience
or 2 years.

All schools.

State laws and regulations concerning teachers' certificates—Continued.

IOWA—Continued.

Name of certificate.	Issued by—	Valid in—		Duration.	Persistence
		Territory.	Schools.		
Preliminary third-grade State certificate.	State board of examiners.	In State...	All schools....	5 years.....	May not be renewed.
First-grade uniform county certificate.	do.....do.....	do.....do.....	do.....do.....	3 years.....	Renewed for 3-year period upon pedagogical reading and professional spirit. Certificate holders having an average of 85 with no subject below 80 are renewed for life after 5 years' successful teaching.
				36 weeks.....	State board of examiners.

Second-grade uniform county certificate.	do.....do.....do.....	2 years	do.....do.....do.....	No experience.
Third-grade uniform county certificate.	do.....do.....do.....	1 year	May be renewed once.	do.....do.....
Special uniform county certificate: Agriculture, domestic science, manual training, drawing, kindergarten, physical education, history and political science, English, French, German, Latin, music, natural and physical sciences, mathematics, commercial subjects, by.	do.....do.....do.....	3 years	Renewable under same conditions as first grade uniform county certificate.	do.....do.....
Fourth-grade uniform county certificate.	do.....do.....do.....	2 years	Renewable for 3 years on same conditions as apply to 1st grade uniform county certificate.	No experience except practice teaching.

State laws and regulations concerning teachers' certificates—Continued.

KANSAS.

ual training, domestic science, agriculture, com- mercial branches, drawing, music, and occupation- al subjects. Three-year certifi- cate renewable for life.	State board of education.do.....	Elementary and high schools.	3 years.....	Renewable for life in compliance with the re- gulations of the State board.	2 years after 3- year certifi- cate was is- sued and compliance with require- ments of State board. Certificate lapses if ap- plicant dis- continues teaching for 3 consecu- tive years.	State board of education.	State board of education.
--	------------------------------	--------------	------------------------------------	--------------	---	--	------------------------------	------------------------------

Three-year certificate.	.....do.....	.....do.....	.....do.....	.....do.....	.....do.....	.....do.....
Special certificate Kindergarten, manual training, domestic science and art, agricul- ture commercial branches, phys- ical training, mu- sic, drawing and such other spe- cialized subjects as may be des- ignated by the State board.	.....do.....	.....do.....	Elementary schools or high schools under regu- lations pre- scribed by the State board.	.....do.....	Renewable for 3-year periods or may be made a per- manent cer- tificate after 3 years' ex- perience in teaching or supervising in the pub- lic schools of the State of Kansas, pro- vided that attendance at any ac- credited nor- mal school, college or university for one year during the 3-year inter- val may be accepted as equivalent to experi- ence in su- pervising or teaching.	Issued on completion of 4-year high school course and 2-year course in accredited normal school, college, or university, with 36 hours' credit in spe- cial branch for which issued.

State laws and regulations concerning teachers' certificates—Continued.

KANSAS—Continued.

Name of certificate.	Issued by—	Valid in—		Duration.	Persistence.	Experience required.	Questions.		Scholarship requirements.
		Territory.	Schools.				Prepared by—	Examined by—	
Three-year elementary certificate.	State board of education.	In State...	Valid in an elementary school.	3 years.....	May be renewed for 3-year periods or made a permanent certificate valid for teaching in elementary schools after 3 years' successful and continuous experience in teaching or supervising, provided, that attendance at any accredited normal school, college or university for 1 year for which full credit is given may be accepted as equivalent to such experience.	None or 4 years			(a) Issued to holders of first-school, university, or college, applicant must be a graduate of a 4-year high school course and have 4 years' successful experience.
State normal school 3-year certificate.	State normal school.	...do.....	Elementary schools.	...do.....	Not renewable				normal school.

	County examining board of which county superintendent is chairman.	County. Indorsed in other counties on appli- cation.	do.....do.....do	do.....do.....do	Renewable on attendance at teachers' institute or 6 weeks at an approved professional school and such other requirements as the county superintendent may prescribe.	do.....do.....do	State board of education.	County examining board.	
First-grade county certificate.	County examining board of which county superintendent is chairman.	County. Indorsed in other counties on appli- cation.	do.....do.....do	do.....do.....do	at least 20 years of age.	do.....do.....do	State board of education.	County examining board.	
Normal training teachers' certificate.	State board of education.	State.....do.....do	do.....do.....do	2 years.....do.....do	Graduation from normal training course in high schools and academies approved for the purpose by the State board of education.	do.....do.....do	State board of education.	County examining board.	
Second-grade county certificate.	County examining board.	County. May be indorsed in other counties.	do.....do.....do	do.....do.....do	Not renewable.	do.....do.....do	State board of education.	County examining board.	
Third-grade county certificate.	do.....do.....do	County.....do.....do	do.....do.....do	1 year.....do.....do		do.....do.....do	do.....do.....do	do.....do.....do	

State laws and regulations concerning teachers' certificates—Continued.

KANSAS—Continued.

Name of certificate.	Issued by—	Valid in—		Duration.	Persistence.	Experience required	Questions.		Scholarship requirements.
		Territory.	Schools.				Prepared by—	Examined by—	
State normal school 1-year certificate.	State normal school.	State.....	Elementary Schools.	3 years..	Not renewable	.....	.....	.....
Temporary certificate.	State board of education.	...do.....	In such schools and departments as are specified on the certificate.	.....do.....	.....do.....	.....	.....	.....

NOTE.—The county superintendent may issue temporary certificates to persons under 17 years of age, who have not failed in the preceding examination, good until the next regular examination.
No teacher shall teach in any high school who does not hold a State certificate as a high school teacher, granted by the State board of education or State normal schools.

KENTUCKY.

Name of certificate.	Issued by—	Valid in—		Duration.	Persistence.	Experience required	Questions.		Scholarship requirements.
		Territory.	Schools.				Prepared by—	Examined by—	
State teacher's diploma.	State board of examiners.	in State...	Any school...	Life ...	.....	2 years.....	State board of examiners.	State board of examiners.	
Life certificate.....	State board of education.	...do.....	...do.....	...do.....	.....	20 years.....	.....	.....
State certificate.....	State board of examiners.	...do.....	...do.....	3 years.....	Renewable for 3 years on recommendation of the county board of examiners in	2 years.....	...do.....	...do.....	

Normal certifi- cates:	the county in which ap- plicant teaches.				Name.....		Name.....
	Board of trus- tees of State university.	do.....	Elementary schools.	1 year.....	Not stated.....	do.....	
(1) Elementary certificate.	do.....	do.....	do.....	2 years.....	do.....	do.....	do.....
(2) Intermedi- ate certifi- cate.	do.....	do.....	Intermediate schools.	3 years.....	do.....	do.....	do.....
(3) Advanced certificate.	do.....	do.....	All schools.....	5 years.....	Extended for life after 3 years' expe- rience.	do.....	do.....
County certifi- cate of the first grade.	County super- intendent of schools.	In county. May be vali- dated in other counties in emer- gency for 1 year.	do.....	4 years.....	Renewable if holder has taught 4 con- secutive years under first-class certificate.	State board of examiners.	State board of examiners.
County certifi- cate of the second grade.	do.....	In county.....	In schools of districts with fewer than 75 pu- pils.	2 years.....	do.....	do.....	do.....
High school certificate.	(a) State board of examiners. (b) State board of education.	In State.....	High schools.....	At the discre- tion of State board.	State superin- tendent may validate same during same term of years not stated.	do.....	do.....

NOTE.—Private institutions "not conducted for private gain" may issue normal certificates on same basis as State university or normal schools, provided applicant has com-
pleted at least equivalent of 10 years' work in public schools.

State laws and regulations concerning teachers' certificates—Continued.

LOUISIANA.

Name of certificate.	Issued by—	Valid in—		Duration.	Persistence.	Experience required.	Questions.		Scholarship requirements.
		Territory.	Schools.				Prepared by—	Examined by—	
Special high-school certificate.	State examining committee.	In State.	All high schools.	5 years.			State examining committee.	State examining committee.	Examinations in the special
First-grade certificate.	do.	do.	Elementary schools.	do.	Renewable for 5 years.		do.	do.	
Second-grade certificate.	do.	do.	do.	3 years.	No renewal.		do.	do.	

Third-grade certificate.

do.

do.

do.

1 year.

do.

do.

do.

do.

1 Renewable on recommendation of parish superintendent. After 1921, 3 credits required for attendance at institute or normal summer school in addition to recommendations. 2 Second and third grade certificates may be extended for a year through application of summer school credits.

NOTE.—Applicants receive 5 points credit to general average earned in examination for 6 weeks' course at summer normal school; 6 points for 8 weeks, 7 points for 9 weeks.

MAINE.

[State laws and regulations concerning teachers' certificates, Dec. 1, 1920.]

Elementary certificate, permanent.	State superintendent.	State.....	In grades for which issued.	Life.....	5 years.....	State superintendent.	State superintendent.
Permanent professional certificate, elementary.	do.	do.	do.	do.	do.		
Permanent secondary certificate.	do.	do.	do.	do.	do.		
Professional secondary certificate, permanent.	do.	do.	do.	do.	do.		
Professional elementary certificate, probationary.	do.	do.	do.	2 years.....	Renewable for 5 years on successful experience.		

State laws and regulations concerning teachers' certificates—Continued.

MAINE—Continued.

Name of certificate.	Issued by—	Valid in—		Duration.	Persistence.	Experience required.	Questions.		Scholarship requirements.
		Territory.	Schools.				Prepared by—	Examined by—	
Discretionary.									(b) Issued to holders of eleventh-
ary.									
Professionals. secondary certificates, probationary.	State superintendent.	State	in grades for which issued.	Life	Renewable for 5 years on successful experience.				
Special certificates. Kindergarten, music, drawing, manual training, household arts, commercial branches, agriculture. Probationary secondary certificates.	do. do. do.	do. do. do.	Special subject for which issued. In grades for which issued.	do. do. For 2, 3, or 5 years as indicated by experience of candidate.	do. do. do.				

	do.....	do.....	do.....	Period specified.	Renewable after successful expir- ation.	Name of	State superin- tendent.	Local superin- tendent.
Elementary cer- tificate, proba- tionary.								
Temporary permit.	Locally.	Elementary...	1 year.....	Nonrenewable.				

“Approved” course must be satisfactory to the State superintendent of public instruction.
The completion of 2 years of college or normal school is prerequisite for obtaining any certificate of secondary grade.

*State laws and regulations concerning teachers' certificates—Continued***MARYLAND.**

Name of
certificate.

Certificate in
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Certificate in
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supervision.

Certificate in su
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High school principal's certificate.	do.....	do.....	All high schools.	do.....	do.....	2 years' teaching experience.				Graduation from a standard college or university or equivalent.
High school teacher's certificate.	do.....	do.....	High schools and elementary schools with the consent of State superintendent.	do.....	do.....	None.				
High school teacher's certificate in special branches.	do.....	do.....	Special subjects.	do.....	do.....					
Elementary school principal's certificate.	do.....	do.....	Elementary schools.	do.....	do.....	3 years in elementary schools.	State board of education.	State board of education.		

State laws and regulations concerning teachers' certificates—Continued.

MARYLAND—Continued.

Name of certificate.	Issued by—	Valid in—		Duration.	Persistence.	Experience required.	Questions.		Scholarship requirements.
		Territory.	Schools.				Prepared by—	Examined by—	
Elementary school teacher's certificate of the first grade.	State superintendent of schools.	In State ..	Elementary schools.	3 years.....	Renewable on evidence of successful experience and professional spirit.	None.....	State board of education.	State board of education.	Graduation from 4-year high school.
Elementary school teacher's certificate of the second grade.	.....do.....	.....do.....	.....do.....	2 years.....	Renewable for 2 years on evidence of successful teaching and at least 6 weeks' additional academic and professional preparation. Renewable for a period of 3 years on evidence of successful teaching and 6 weeks of professional preparation at a standard institution and thereafter indefinitely on same conditions.	.....do.....	.....do.....	.....do.....	

[illegible]

State laws and regulations concerning teachers' certificates—Continued.

MASSACHUSETTS.

Name of certificate.	Issued by—	Valid in—		Duration.	Perpetuance.	Experience required.	Questions. Prepared by— Examined by—	Scholarship requirements.
		Territory.	Schools.					
Permanent life certificate.	State board of education.	In State.	State-aided high schools.	For life.		2 years in Massachusetts.		
Superintendent's permanent life certificate.	do.	do.	To supervise schools in union.	do.		3 continuous years subsequent to securing preliminary certificate.		
Superintendent's preliminary certificate.	do.	do.	As superintendent of schools in the union.	3 years.		(a) 2 years' teaching. (b) 3 years' supervision.	State board of education.	

State laws and regulations concerning teachers' certificates—Continued.
MASSACHUSETTS—Continued.

Name of certificate.	Issued by—	Valid in—		Duration.	Persistence.	Experience required.	Questions.		Scholarship requirements.
		Territory.	Schools.				Prepared by—	Examined by—	
Special certificate in any of the following: Agriculture, drawing, commercial subjects, manual arts, household arts, music, physical training.	State board of education.	In State....	State-aided high schools.	2 years.....	Renewable at the discretion of the State board.	.....	.....	.....	Applicant's qualifications to
Local certificates.	Local school committee.	In the district which issued.	In schools or subjects for which issued.	At the discretion of the local committee.	At the discretion of the local committee.	.....	Local school committee.	Local school committee.	

MICHIGAN.

Name of certificate.	Issued by—	State.....	All schools....	Life.....	2 years.....	State board of education.	State board of education.	Applicant must pass satisfac-
Life certificate upon examination.	State superintendent.							

Life certificate upon indorsement.	State board of education.	do.	do.	do.	do.	do.
College life certificate.	do.	do.	do.	do.	do.	3 years.
Normal life certificate.	do.	do.	do.	do.	do.	None.
Special certificate: Domestic science and art, manual training, commercial training, physical training, drawing.	State superintendent.	do.	do.	All schools in subjects named.	do.	
Musical certificate.	do.	do.	do.	All schools to teach music.	do.	

State laws and regulations concerning teachers' certificates—Continued.

MICHIGAN—Continued.

Name of certificate.	Issued by—	Valid in—		Duration.	Persistence.	Experience required.	Questions.		Scholarship requirements.
		Territory.	Schools.				Prepared by—	Examined by—	
Kindergarten and primary certificate.	State superintendent.	State.....	Kindergarten and primary grades.	Life.....					
University of Michigan certificate.	Regents of University of Michigan.	do.....	All schools.....	do.....					
College limited certificate.	State board of education.	do.....	do.....	4 years.....	Not renewable.				
First-grade county certificate.	County board of examiners.	County 1.....	do.....	do.....	Renewable indefinitely if holder has average standing of 85 per cent in two previous examinations and continues teaching.	1 year.....	State superintendent of public instruction.	State superintendent of county board of examiners.	

Graded certificate.	State board of education.	do.	do.	3 years	Not renewable.				
Rural school certificate.	do.	State.	First 9 grades.	do.	Renewable for a period of 3 years.				
County normal certificate.	County normal board.	In county in which issued.	All schools which do not employ more than 2 teachers.	do.	Renewable for successful teaching and professional interest.				
Second-grade certificate.	County board of examiners.	do.	All schools.	do.	Renewable as in county first grade.	7 months.	State superintendent of public instruction.	County board of examiners.	
Third-grade certificate. Class A.	do.	do.	First 4 grades.	1 year.	do.	3 months in primary departments.	do.	do.	
Third-grade certificate. Class B.	do.	do.	do.	do.	May be renewed once under above conditions. Not more than 3 certificates of this grade can be granted to the same person.		do.	do.	course of study. Same as above.

¹All county first-grade examination papers favorably passed upon by the county board of examiners, together with the certificates, shall be forwarded to the superintendent of public instruction within 10 days for his inspection and indorsement. The indorsed first-grade certificate is valid in all schools in any county of the State, provided a copy of same is recorded in the office of the county commissioner of the county.

State laws and regulations concerning teachers' certificates—Continued.
MICHIGAN—Continued.

Name of certificate.	Issued by—	Valid in—		Duration.	Residence.	Experience required.	Questions.		Scholarship requirements.
		Territory.	Schools.				Prepared by—	Examined by—	
Special certificate.	County commissioner of schools.	Specified district of the county in which issued.	.....	Good until next examination.	.....	.....	County commissioner of schools.	County commissioner of schools.	satisfactory same as third-class B 3.

NOTE.—Applicant for certificate must be a citizen of the United States or have declared his intention to become such. All certificates require that applicant must be 18 years of age or over. No certificate can be granted to school, county normal training class or other.

MINNESOTA.

Life certificate for normal school graduates.	Normal school board.	In State. ....do.....	Elementary....	Life.....	.....	2 years teaching on normal school diploma in State. 5 months.....	.....	.....	Graduation from advanced course of a State normal school and successful experience.
First-grade certificate.	State superintendent.	.....do.....	Rural elementary.	5 years.....	Renewable by State superintendent on completion of prescribed amount of professional work.	.....	State superintendent.	State superintendent.	.....
Professional certificate of first-grade on examination.	.....do.....	.....do.....	Any.....	Valid for limited periods 3 or 5 years.	Renewable on evidence of successful teaching. Matures into life certificate.	One year's teaching experience in State.	.....do.....	.....do.....	.....

Certificate	Issued by	Valid for	Renewal	Expiration	Notes
Professional certificate of first-grade granted to college graduates.	State	2 years	do.	do.	(a) Made permanent after 2 years' experience. (b) Renewable on evidence of satisfactory teaching. Matures into life certificate usually after two renewals.
Second-grade professional certificate.	State	Valid for limited periods.	do.	do.	One year's teaching experience in State.
Second-grade certificate	State	2 years	do.	do.	Renewable for 2 years upon completion of prescribed professional work and 6 months' experience.

May be exchanged for first-class certificate on completion of prescribed professional courses and reading circle credits.

10.

State laws and regulations concerning teachers' certificates—Continued.

MISSISSIPPI—Continued.

Name of certificate.	Issued by—	Valid in—		Duration.	Persistence.	Experience required.	Questions.		Scholarship requirements.
		Territory.	Schools.				Prepared by—	Examined by—	
State license of the second grade.	State board of examiners.	In State ..	All schools....	1 year..... 2 years..... 3 years.....	Renewable 1 year at a time for not more than 4 con- secutive years, on at- tendance at approved 8 weeks' sum- mer school. Not renewable	.....	State board of examiners.	State board of examiners.	
State license of the third grade.	.....do.....	.....do.....	.....do.....	1 year.....	.....do.....	.....	.....do.....	.....do.....	
Second-grade county certificate.	County board of examiners.	In county.	.....do.....	.....do.....	.....do.....	.....	.....do.....	County board of examiners.	
Third-grade county certificate.	.....do.....	.....do.....	.....do.....	.....do.....	.....do.....	.....	.....do.....	.....do.....	
First-grade county certificate.	.....do.....	.....do.....	.....do.....	(a) 1 year..... (b) 2 years..... (c) 3 years.....	Renewable on attendance at approved summer school.	.....	.....do.....	.....do.....	

Agricultural high-school certificate.	.....do.....	.....do.....	All schools for teaching agriculture.	.....do.....	Renewable on compliance with regulations of State board of examiners.	.....do.....	.....do.....	.....do.....
Special subjects certificate: Nursing, manual training, domestic science, and other special subjects.	.....do.....	.....do.....	Special subjects only.	Discretion of board.				

State laws and regulations concerning teachers' certificates—Continued.

MISSOURI.

Name of certificate.	Issued by—	Valid in—		Duration.	Period of use.	Experience required.	Questions.		Scholarship requirements.
		Territory.	Schools.				Prepared by—	Examined by—	
Lifecertificate.....	State superintendent.	State.....	All schools.....	Life.....		(a) 40 months as teacher or superintendent. (b) 16 months' teaching.	State superintendent.	State superintendent.	

State laws and regulations concerning teachers' certificates—Continued.
MISSOURI—Continued.

Exchanged for life certificate after total experience of 40 months, 9 months of which is in Missouri, if holder has secured additional training prescribed by board.

Second-grade county certificate.	.....do.....	In county in which issued.	.....do.....	2 years.....	May be renewed once.	.....do.....	.....do.....	.....do.....
Third-grade county certificate.	.....do.....	.....do.....	.....do.....	1 year.....	Renewable once. Not more than 4 to be secured in 4 years.	.....do.....	.....do.....	.....do.....
Special certificates.	.....do.....	In county.	.....do.....	Until next examination.		County superintendent.	County superintendent.	
Teacher-training school certificate.	(a) County superintendent. (b) State superintendent.	In county in which school is located.	Elementary or rural school.	2 years.....	May be converted into first-grade certificate after 32 weeks' experience and 1 term professional training in normal school or State university.			

State laws and regulations concerning teachers' certificates—Continued.
MONTANA.

Name of
certificate.

Life certificate:
(a) By exam-
nation

(b) By indor-
sement.

Do.....

Do.....

State laws and regulations concerning teachers' certificates—Continued.

MONTANA—Continued.

Name of certificate	Issued by—	Valid in—		Duration.	Persistence.	Experience required.	Questions.		Scholarship requirements.
		Territory.	Schools.				Prepared by—	Examined by—	
State certificate— Continued. (b) Without examination.	State board of education.	State when registered by the county superintendent of schools in which applicant expects to teach.	All schools.	6 years.	Renewable for 6 years if holder has had 27 months' experience and has completed required reading circle work.	18 months.			
Do.	do.	do.	Elementary schools.	do.	do.	do.			
Professional certificate.	State board of educational examiners.	Any county interested with county superintendent.	All schools.	4 years.	May be renewed if applicant has taught successfully at least 12 months and completed the requisite amount of reading circle work.	do.	State board of educational examiners.	State board of educational examiners.	

First-grade certificate.	.....do.....	.....do.....	Elementary subjects.	3 years.....	.....do.....	12 months.....	.....do.....
Second-grade certificate.	.....do.....	.....do.....	.....do.....	24 months.....	Not renewable	None required.	.....do.....
Special certificate: Music, drawing, education, physical culture, or- ganized manual training, domestic science, agricultural, commercial and kindred subjects first 3 years primary and kindergarten.	.....do.....	District request, being same.	Special subject	1 year.....	Renewable during service in the district if applicant continues teaching.	.....do.....	.....do.....

¹ Issued also for completion of subjects in the several institutions of the University of Montana.

State laws and regulations concerning teachers' certificates—Continued.

MONTANA—Continued.

Name of certificate.	Issued by—	Valid in—		Duration.	Persistence.	Experience required.	Questions.		Scholarship requirements.
		Territory.	Schools.				Prepared by—	Examined by—	
Temporary State certificate.	State superintendent.	District request— ingame.	Elementary schools.	1 year.....	Not renewable	.....	.....	.....	.....
Temporary certificate.	State board of educational examiners.	State.....	do.....	Until next regular examination.	do.....	.....	State board of educational examiners.	State board of educational examiners.	.....

NOTE.—Holders of unexpired first or second grade certificates with satisfactory experience may have grades in all subjects above 80 per cent transferred to higher certificates. Certificate who has completed any branch at institutions of the University of Montana may have such grade accredited without examination on any

1 as teacher in a high school or as the principal teacher of a school of more than three departments who has not professional certificate or a Montana
1 not a graduate of a reputable university, college, or normal school recognised by the State board of education.

NEBRASKA.

Professional State certificate.	State superintendent.	Good in all districts organized under Articles III and VI. ¹	All schools.....	Life.....	(a) 2 years' experience in addition to that required for first-grade certificates. (b) 3 years.	State superintendent.	State superintendent.
Superintendent's city State certificate.	.....do.....	.....do.....	.....do.....	3 years.....	Nonrenewable, but convertible into professional superintendent's city State certificate, valid for life. ²	1 year as principal of approved high school.	

¹ Districts organized under Article III have a population of less than 150 pupils and 3 directors; districts organized under Article VI have a population of over 150 pupils and 6 directors.

² Convertible into a professional city State certificate valid for life on completion of 1 year of normal school or college work, plus 24 months' experience.

State laws and regulations concerning teachers' certificates—Continued.
NEBRASKA—Continued.

Name of certificate.	Issued by—	Valid in—		Duration.	Persistence.	Experience required.	Questions.		Scholarship requirements.
		Territory.	Schools.				Prepared by—	Examined by—	
High school city State certificate.	State superintendent.	Good in all districts organized under Articles III and VI.	High schools.	3 years.	Convertible into professional high school city State certificate, valid for life, 24 months' experience and 1 year's professional work.	.....	State superintendent.	State superintendent.	(a) Issued to applicants who
Special city State certificate.	.....do.....	.....do.....	Special subject	.....do.....	Nonrenewable, but convertible into special professional city State certificate in same manner as other city State certificates.	.....	.....	.....
Elementary State certificate.	State normal universities.	Grades below high schools in districts organized under Articles III and VI.	All schools.	1-3 years.	Nonrenewable.	No experience.	.....	.....

Grade city State certificate.	State superintendent.	In grades 1-4, inclusive, of districts organized under Articles VI and XXII. ¹	3 years.....	Convertible into professional grade city State certificate, valid for life, on completion of 1 year normal college work and 24 months' experience. Renewable by advanced study.	.....	.....	.....	.....
Rural elementary certificate.	State normals.	State.....	Rural.....	No experience.	.....	.....	.....	.....
First-grade rural State certificate.	.....do.....	do.....	Rural villages and towns.	Merges into professional rural State certificate good for life.	.....	.....	.....	.....
First-grade State certificate.	University, colleges, State normals.	do.....	Rural and towns up to 1,000 population.	Merges into life.	.....	.....	.....	.....
First-grade county certificate.	County superintendent.	In the county where issued or any county of State when transferred by State superintendent.do.....	First renewal. Average 25, no subject below 20 and credit for 6 college hours. Renewable thereafter on 12 college hours.	1 year.....	State superintendent.	State superintendent.

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¹ Districts organized under Article III have a population of less than 150 pupils and 3 directors; districts organized under Article VI have a population of over 150 pupils and 6 directors; districts organized under Article XXII have a population of over 1,000 inhabitants.

² Convertible into a professional city State certificate valid for life on completion of 1 year of normal school or college work, plus 24 month's experience.

State laws and regulations concerning teachers' certificates—Continued.

NEBRASKA—Continued.

Name of certificate.	Issued by—	Valid in—		Duration.	Persistence.	Experience required.	Questions.		Scholarship requirements.
		Territory.	Schools.				Prepared by—	Examined by—	
Second-grade county certificate.	County superintendent.	In the county where issued or any county of State when transferred by State superintendent.	Elementary schools.	2 years.....	Renewable once through the general average and earning credits for six hours of college work.	No experience.	State superintendent.	State superintendent.	
Emergency State certificate.	do.....	In city for which issued.	All schools.....	1 year.....					
Emergency certificate.	State superintendent on recommendation of the county superintendent and the board.	Valid in district for which issued.	do.....	do.....					teachers.

NEVADA.

Life diploma high school.	State board of education.	In State.	All high schools.	For life.	(a and b) 60 months, 24 of which shall be in Nevada. (c) 45 months for graduates of University of Nevada.				
Life diploma elementary.	do.	do.	Elementary schools.	do.	(a) Same as for life diploma for high schools. (b) 45 months' life graduate of Nevada State Normal School.				
High-school certificate to graduates of State normal college.	do.	do.	In high schools.	5 years.	Renewed after 45 months' experience for life.				
First-grade elementary certificate for normal-school graduates.	do.	do.	Elementary schools.	do.	Renewable for life on completion of 45 months' experience.				course (2 years).
State high school certificate.	do.	do.	All high schools.	4 years.	Renewable at the discretion of the State board of education.		State board of education.	State board of education.	(a) Examination in English

State laws and regulations concerning teachers' certificates—Continued.

NEVADA—Continued

Name of certificate.	Issued by—	Valid in—		Duration.	Persistence.	Experience required.	Questions.		Scholarship requirements.
		Territory.	Schools.				Prepared by—	Examined by—	
State high school certificate.									(b) Applicant may be allowed
Elementary certificate of the first grade.	State board of education.	In State.	Elementary schools.	3 years.	Renewable at the discretion of the State board of education.	16 months.			
Elementary certificate of the second grade.	do.	do.	do.	2 years.	Not renewable.				Nevada (1 year in addition to 4-year high school course).

State laws and regulations concerning teachers' certificates—Continued.
NEW MEXICO.

Name of certificate.	Issued by—	Valid in—		Duration.	Persistence.	Experience required.	Questions.		Scholarship requirements.
		Territory.	Schools.				Prepared by—	Examined by—	
Professional life certificate.	State board of education.	State.....	All schools...	Life.....	.....	45 months, 9 months in New Mexico.	State board of education.	State board of education.	

Five-year professional certificate.	do.	do.	do.	do.	5 years.	(a) May be issued for 45 months' experience.	27 months; 9 months in New Mexico.	
High school professional certificate.	do.	do.	do.	do.	3 or 5 years.	Good for 5 years if applicant has 14 units of observation and practice. May be extended for 2 years and made permanent with 45 months' successful teaching.		

State laws and regulations concerning teachers' certificates—Continued.

NEW MEXICO—Continued.

Name of certificate	Issued by—	Valid in—		Experience required.
		Territory.	School.	
Elementary State certificates of the second grade.	State board of education.	State.....	Elementary school.....	.....
Elementary State certificate of the first grade.	.....do.....	.....do.....	.....do.....	.....
Elementary State certificate of the third grade.	.....do.....	.....do.....	.....do.....	.....

Special certificates:	do.	do.	All schools.	do.	Renewable on successive ex- perience.	used to the same per- son.	Requirements not specified, but applicant's qualifications must be satisfactory to the State board of education. Do. Do. Do.
1. Music	do.	do.	do.	do.	do.	do.	Do.
2. Vocational	do.	do.	do.	do.	do.	do.	Do.
3. Art	do.	do.	do.	do.	do.	do.	Do.
4. Spanish	do.	do.	do.	do.	do.	do.	Do.

NEW JERSEY.

State elementary certificate:	State board of examiners.	State	Elementary	1 year from beginning of year appli- cant begins to teach.	Renewable once for 2 years with- out exami- nation.	3 to 5 years on limited certificate.	State board of examiners.	State board of examiners.
Limited	do.	do.	do.	do.	do.	do.	do.	do.
Permanent	do.	do.	Elementary to teach and supervise school with not more than 9 teachers.	Life	do.	do.	do.	do.

State laws and regulations concerning teachers' certificates—Continued.

NEW JERSEY—Continued.

Name of certificate.	Issued by—	Valid in—		Duration.	Persistence.	Experience required.	Questions.		Scholarship requirements.
		Territory.	Schools.				Prepared by—	Examined by—	
State elementary certificate—Con. Permanent.....									
Secondary State certificate: Limited.....	State board of examiners.	State.....	In any branch of secondary department included in certificate. Does not entitle holder to supervise.	3 years from the beginning of the school year in which applicant begins to teach.	Renewable for 2 years.		State board of examiners.	State board of examiners.	Set during following 2 years.

Permanent.....do.....do.....do.....	Secondary school, either as teacher, principal, or supervisor of school or district employing not more than 9 assistants not having a superintendent.	Life.....	3 years.....	.....do.....do.....do.....	Applicant must hold limited secondary certificate on which he has taught for at least 8 years.
Supervisor's certificate: Limited.....do.....do.....do.....	Supervision of instruction in any of the second-ary and elementary schools and for teaching any branch needed to secure the certificate.	Not given.....	(a) 5 years' experience in teaching, and at least one year as principal or supervisor of a school or schools employing at least 6 assistant teachers (b) 6 years as principal or supervisor.	.....do.....do.....do.....	(a) Applicant must be at least 25 years of age and hold
Permanent.....do.....do.....do.....	.....do.....do.....do.....	Life.....	3 years' experience as supervisor.	.....do.....do.....do.....	

State laws and regulations concerning teachers' certificates—Continued.

NEW JERSEY—Continued.

State laws and regulations concerning teachers' certificates—Continued.

NEW JERSEY—Continued.

Name of certificate.	Issued by—	Valid in—		Duration.	Persistence.	Experience required.	Questions.		Scholarship requirements.
		Territory.	Schools.				Prepared by—	Examined by—	
Vocational certificates (for positions in State-aided schools)—Continued. (3) Household arts certificate—Limited...	State board of examiners.	State	To teach household arts in State-aided vocational schools.	1 year.	Renewable as other vocational certificates (limited).	Experience satisfactory to the board of examiners.			
Permanent	do	do	do	Life		3 years.			
(4) Technical vocational certificate—Limited...	do	do	To teach technical subjects such as drawing, mathematics or other sciences relating to the vocation taught in State-aided schools.	1 year.	Renewable as other limited vocational certificates.		State board of examiners.	State board of examiners.	
Permanent	do	do	do	Life		3 years.			
(5) Academic certificate—Limited...	do	do	To teach academic subjects in State-aided vocational schools.	1 year.	Renewable as other limited vocational certificates.				

Permanent	do	do	do	Life	3 years	Applicant must hold limited academic certificate and recommendation from superintendent of schools and commissioner of education.
(6) Supervisor's certificate—limited.	do	do	do	1 year	Not renewable	
Permanent	do	do	do	Life	1 year	
Provisional elementary certificate.	County or city superintendent.	In county or city under the jurisdiction of the superintendent who grants the certificate.	Elementary	Good until the last day of the second month succeeding the date of the next examination.	Renewable once applicant receives credit for at least 5 of the subjects required for a limited elementary certificate.	
Provisional secondary certificate.	do	do	Secondary	do	Not renewable	Same as above, except that regulation concerning high school graduation and summer school attendance is omitted.
Provisional special certificate.	do	do	Special subjects.	do	do	Do.
Provisional supervisor's certificate.	do	do	do	do	do	Do.
Provisional certificate for vocational State-aided schools.	do	do	State-aided vocational schools.	do	do	Do.

State laws and regulations concerning teachers' certificates—Continued.

NEW YORK.

Name of certificate.	Issued by—	Valid in—		Duration.	Persistence.	Experience required.	Questions.		Scholarship requirements.
		Territory.	Schools.				Prepared by—	Examined by—	
State certificate...	Commissioner of education and president of the university.	In State...	All schools....	For life.....	.....	3 years.....	State department of education.	State department of education.	
College graduate life certificate.	.....do.....	.....do.....	.....do.....	.....do.....	.....	8 years, 2 of which must be in New York.	.....do.....	.....do.....	
College graduate permanent certificate.	.....do.....	.....do.....	.....do.....	.....do.....	.....	3 years.....	None.....	None.....	
Normal diplomas...	.....do.....	.....do.....	Any elementary school.	.....do.....	.....	.....	.....do.....	.....do.....	Normal school.

Normal certificate.	do.	do.	do.	do.	do.	6 years' experience in teaching.	do.	do.	Issued to applicants on evidence of 2 years' high school work and four summer courses in a State normal
Training class certificates valid in sub academic grades.	District, village, or city superintendent.	In district, village, or city for which issued or indorsed.	In grades 1 to 8, inclusive.	10 years.	Renewable for 10-year periods on 5 years' successful experience in teaching.	3 years.	State department of education.	State department of education.	
Limited State certificate.	Commissioner of education and president of the university.	In State.	All schools.	5 years.	Nonrenewable.	do.	do.	do.	
Rural school renewable certificate.	District superintendent.	In superintendent's district for which issued or indorsed.	School district not maintaining an academic department.	3 years.	Renewable after 2 years' experience for 10 years.	None.	do.	do.	

State laws and regulations concerning teachers' certificates—Continued.
NEW YORK—Continued.

College graduate professional pro- fessional certifi- cate.	Commissioner of education and the pres- ident of the university.	In State...	All schools....	.....do.....	Renewable by indorsement.	.....do.....	None.....	None.....
Special certificates: Kindergarten, music, art, drawing, manual arts, commercial branches, and other subjects.	.....do.....	In district, village, or city for which certifi- cate is is- sued or indorsed.	Special sub- jects only.	.....do.....	Renewable for 5-year peri- ods after 2 years' expe- rience.	.....do.....	State depart- ment of edu- cation.	State depart- ment of edu- cation.
Academic certifi- cate.	District super- intendent.	In super- intendent's district for which issued or indorsed.	School district not main- taining an academic department for which school dis- trict certifi- cate is issued or validated by the dis- trict super- intendent.	2 years.....	Renewable 1 year for each 18 credits ob- tained in ex- amination for State his- tory certificate or for the suc- cessful com- pletion of a 4 weeks' sum- mer course in a State normal school.	.....do.....	.....do.....	.....do.....

State laws and regulations concerning teachers' certificates—Continued.
NEW YORK—Continued.

Name of certificate.	Issued by—	Valid in—		Duration.	Persistence.	Experience required.	Questions.		Scholarship requirements.
		Territory.	Schools.				Prepared by—	Examined by—	
College graduate limited certificate.	Commissioner of education and president of the university.	In State....	In any school except in grammar and primary grades of cities and villages of 5,000 or more inhabitants employing a superintendent of schools.	3 years.....	Renewable for 1 year.	None.....	.....	.....	Applicant must be a graduate who has received a certificate from a college or the regents of the State
Equivalent certificate.	do.....	do.....	In any elementary school.	1 year.....	May be exchanged for permanent.	1 year or more.	do.....	do.....	

States and 18 years old. Prerequisite for license to teach in the primary and grammar schools of any city in school district : (1) 3 years' experience, or (2) prescribed course in State normal school, or (3) New York life certificate, or (4) graduation there.

NORTH CAROLINA.

Professional life certificate.	State board of examiners and institute conductors.	State.....	All schools.....	Life.....	2 years.....	None.....	None.....	
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State laws and regulations concerning teachers' certificates—Continued.

NORTH CAROLINA—Continued.

Name of certificate.	Issued by—	Valid in—		Duration.	Persistence.	Experience required.	Questions.		Scholarship requirements.
		Territory.	Schools.				Prepared by—	Examined by—	
Home economics special certificate.	State board of examiners and institute conductors.	State	High schools.	3 years.			State board of examiners and institute conductors.	State board of examiners and institute conductors.	Graduation from the State nor-
Mechanics arts special certificate.	do.	do.	do.	do.			do.	do.	
Elementary teacher's certificate.	do.	do.	Elementary schools.	2 years.	Renewable for (a) reading circle work; (b) summer school attendance.		do.	do.	

NORTH DAKOTA.

First-grade professional certificate: (1) Issued on examination.	State board of education.	State.....	All schools.....	(a) 5 years; (b) life.	Convertible into life certificate.	12 months.....	State board of education.	State board of education.
(2) Issued on diploma.	do.....	do.....	do.....	(a) 3 years; (b) 2 years.	(a) Convertible into life certificate after 9 months' experience. (b) Convertible into certificate valid for 5 years after 9 months' experience and renewable for life after 5 years' experience.	None, or 3 years. None for initial certificate; 9 months for conversion. (b) None, or 3 years.	do.....	do.....

State laws and regulations concerning teachers' certificates—Continued.

NORTH CAROLINA—Continued.

Name of certificate.	Issued by—	Valid in—		Duration.	Persistence.	Experience required.	Questions.		Scholarship requirements.
		Territory.	Schools				Prepared by—	Examined by—	
Superintendent's certificate.	State board of examiners and institute conductors.	State	All schools	2 years	Renewable for (a) reading circle work; (b) summer school attendance.	2 years' teaching experience with- in the preceding 5 years or 3 years' supervising experience with- in the preceding 7 years, or 5 years' supervising experience with- in the preceding 10 years.	State board of examiners and institute conductors.	State board of examiners and institute conductors.	Same as for high school principal's certificate.
Assistant superintendent's certificate.	.....do.....	.....do.....	.....do.....	.....do.....	.....do.....	1 year .....	.....do.....	.....do.....	Do.
Special certificates: Kindergarten; commercial branches, physical training, music, drawing, manual training, public speaking.	.....do.....	.....do.....	Subject specified.	.....do.....	Reading circle.	.....do.....	None.....	None.....	G

NORTH DAKOTA.

First-grade professional certificate: (1) Issued on examination.	State board of education.	State.....	All schools.....	(a) 5 years; (b) life.	Convertible into life certificate.	18 months.....	State board of education.	State board of education.
(2) Issued on diploma.	do.....	do.....	do.....	(a) 2 years; (b) 3 years.	(a) Convertible into life certificate after 9 months' experience. (b) Convertible into certificate valid for 5 years after 9 months' experience and renewable for life after 5 years' experience.	None, or 3 years. None for initial certificate; 9 months for conversion. (b) None, or 3 years.	do.....	do.....

State laws and regulations concerning teachers' certificates—Continued.

NORTH DAKOTA—Continued.

Name of certificate.	Issued by—	Valid in—		Duration.	Persistence.	Experience required.	Questions.		Scholarship requirements.
		Territory.	Schools.				Prepared by—	Examined by—	
Second-grade professional certificate: (1) Issued on examination.	State board of education.	State	All schools except 4-year high schools.	5 years.	Renewable	9 months.			
(2) Issued on diploma.	do.	do.	do.	(a) 2 years; (b) 2 years; (c) 2 years.	(a) Renewable for life after required experience. (b) Renewable for 5 years after required experience, at discretion of the board. (c) Same as (b).	(a) and (b) none. (c) 3 years after receiving diploma described in column 10. (a) and (b) given for 2 years, without experience, and may be exchanged for life duration after 9 months' successful experience.			

State laws and regulations concerning teachers' certificates—Continued.

NORTH DAKOTA—Continued.

Name of certificate.	Issued by—	Valid in—		Duration.	Persistence.	Experience required.	Questions.		Scholarship requirements.
		Territory.	Schools.				Prepared by—	Examined by—	
Second-grade elementary certificate: (1) Issued on examination.	State board of education.	In any county of State when recorded by county superintendent schools.	Elementary schools.	2 years.....	Renewable on successful experience, reading circle work, and attendance at a 6-weeks' professional school.	.....	State board of education.	State board of education.	
(2) Issued on diploma.	.....do.....	.....do.....	.....do.....	.....do.....	.....do.....	.....	.....	.....

Special certificates: Drawing, mu- sic, kindergar- ten, primary subjects, agricul- ture, commercial subjects, domes- tic science, ma- nual training.	.....do.....	State.....	Subjects which issued.	for is-	Validity pre- scribed by the state board.	At the discre- tion of the State board.	At the discre- tion of the State board.

USE THESE.

OHIO.

[illegible]

State laws and regulations concerning teachers' certificates—Continued.
OHIO—Continued.

Name of
certificate.

State element
certificate.

Provisional h
school certific

Provisional
mentary cer
ticate.

Provisional special certificate: Music, drawing, penmanship, manual training, physical culture, domestic science, agriculture, kindergarten or modern language.	.....do.....	.....do.....	Special subject only.	.....do.....	Renewable by State superintendent. May be made life certificate after 24 months' experience.	.....do.....	.....do.....	.....do.....	.....do.....
Provisional kindergarten certificate.	State board of examiners.	.....do.....	Kindergarten and first, second, and third grades of elementary schools.	.....do.....	Renewable by State superintendent.	.....do.....	.....do.....	.....do.....	.....do.....
Vocational certificate: Home economics, agriculture, trade and industrial subjects.	County or city board of examiners.	County or city.	Subject for which given.	.....do.....	.....do.....	.....do.....	.....do.....	.....do.....	County or city board of examiners.
High school certificate.	.....do.....	.....do.....	High schools.	1 or 3 years, depending on grades and experience, as determined by rules of local boards of examiners.	Not stated.	.....do.....	State superintendent. ¹	.....do.....	.....do.....
Elementary certificate.	.....do.....	.....do.....	Elementary schools.	.....do.....	.....do.....	.....do.....	.....do.....	.....do.....	.....do.....

addition to full 4-year high school course.

¹ City boards of examiners provide their own questions until 1924 and prescribe qualifications to take the examination. Also they may issue special certificates for teaching deaf, dumb, and the like, to those who have the qualifications to secure elementary certificates and such additional qualifications as the superintendent of public instruction may prescribe.

State laws and regulations concerning teachers' certificates—Continued.

OHIO—Continued.

Name of certificate.	Issued by—	Valid in—		Duration.	Persistence.	Experience required.	Questions.		Scholarship requirements.
		Territory.	Schools.				Prepared by—	Examined by—	
Special certificate.	County or city board of examiners.	County or city.	Special subject	1 or 3 years depending on grades and experience as determined by rules of local boards of examiners.			State superintendent.	County or city board of examiners.	
Normal student's certificate.	.....do.....	.....do.....	Elementary schools.	1 year.....	May be renewed for 1 or 3 years at direction of the board of examiners.				
Emergency certificate.	.....do.....	.....do.....	Specified school.	.....do.....					

OKLAHOMA.

State life certificate.	State board of education.	State.....	All schools.....	Life.....				
Special certificates: Music, domestic science, agriculture, art, manual training, expression, and commercial branches.	do.....	do.....	Special subjects only.					
Five-year elementary certificate.	do.....	do.....	Below the 9th grade.	5 years.....	Renewable.....	Amount not stated.		
Five-year high-school certificate.	do.....	do.....	High school.	do.....	do.....	do.....		
First-grade county certificate.	County board of examiners or State board of examiners.	In county in which issued and may be indorsed in any other county.	All schools.....	4 years.....	(1)	12 months.....	Superintendent of public instruction.	County board of examiners or State board of examiners.

music, and general history.

¹ May be renewed for term for which issued by county superintendent if applicant attends institutes and summer schools as follows: 75 per cent of normal institutes or training courses held in county in which applicant has taught, or 50 per cent of teacher's associations held in county and 10 weeks, special training in a State normal school.

State laws and regulations concerning teachers' certificates—Continued.
OKLAHOMA—Continued.

Name of certificate.	Issued by—	Valid in—		Duration.	Permittee.	Experience required.	Questions.		Scholarship requirements.
		Territory.	Schools.				Prepared by—	Examined by—	
Two-year certificates.	State university and the A. and M. colleges or normal schools of Oklahoma.	State.....	All schools....	2 years.....	.....	.....	.....	.....	.....
Second-grade county certificate.	County board of examiners.	County in which issued and may be indorsed in and joining county.	do.....	do.....	See first-grade county certificate.	6 months.....	do.....	County board of examiners.	.....
Special certificate (to teach certain branches).	State board of education.	State.....	do.....	do.....	Renewable.....	.....	.....	.....	.....
Normal school and college 1-year certificates.	State university and the A. and M. colleges or normal schools of Oklahoma.	do.....	do.....	1 year.....	Not renewable	.....	.....	.....	.....
Teacher's training course certificate.	Certain high schools of the State.	do.....	do.....	do.....	do.....	.....	.....	.....	.....

Third-grade county certificate.	County board of education.	County in which issued.	do.	do.	Same as for first and second grade county certificates.	do.	State superintendent of public instruction.	County board of examiners.
Temporary elementary.	State board of education.	State.	Below the 9th grade.	1 year.	Renewable.			
Temporary high school.	do.	do.	High school.	do.	do.			

Notes:

r a first-grade certificate must have the equivalent of at least 3 years of an approved high school or 36 weeks' professional training in an approved high school or 20 weeks' professional training in schools as provided at least 2 years of academic training in an approved high school or 10 weeks of professional training in the schools as provided

least one year academic training in an approved high school or 10 weeks of professional training in the schools as provided

OREGON.

Life State certificate.	State superintendent of public instruction.	State.	All schools.	Life.	do.	60 months, 16 in the State.	State board of examiners.	State board of examiners.

State laws and regulations concerning teachers' certificates—Continued.

OREGON—Continued.

Name of certificate.	Issued by—	Valid in—		Duration.	Persistence.	Experience required.	Questions.		Scholarship requirements.
		Territory.	Schools.				Prepared by—	Examined by—	
Five-year State certificate	State superintendent of public instruction.	State.....	In elementary grades and in 1-year, 2-year, and 3-year high schools.	5 years.....	Renewable for attendance of 32 weeks at an institution of higher education.	12 months.....	State board of examiners.	State board of examiners.	
Primary 5-year certificate.	do.....do.....	do.....do.....	First, second, and third grades.	do.....do.....	Renewable for attendance of 36 weeks at an institution of higher education or 32 months' successful experience.	do.....do.....	do.....do.....	do.....do.....	
Certificates on graduation from standard college or university.	do.....do.....	do.....do.....	In high schools	1 year.....					

Certificates on graduation from standard college or university.

II.....	do.....	do.....	do.....	5 years.....	do.....	6 months in Oregon.	do.....	do.....
III.....	do.....	do.....	do.....	Life.....	do.....	20 months in Oregon.	do.....	do.....
Certificates on graduation from standard normal school:								
I.....	do.....	do.....	do.....	1 year.....	Elementary grades and 1-year, 2-year, and 3-year high schools.	do.....	do.....	do.....
II.....	do.....	do.....	do.....	5 years.....	do.....	6 months in Oregon.	do.....	do.....
III.....	do.....	do.....	do.....	Life.....	do.....	30 months in Oregon.	do.....	do.....
Nonstandard—								
I.....	do.....	do.....	do.....	1 year.....	In high schools	do.....	State board of examiners.	State board of examiners.
II.....	do.....	do.....	do.....	5 years.....	do.....	6 months in Oregon.	do.....	do.....

tendent of the county in which applicant last taught.

¹ For teaching those subjects only in which applicant passes examination.

State laws and regulations concerning teachers' certificates—Continued.

OREGON—Continued.

Name of certificate.	Issued by—	Valid in—		Duration.	Persistence.	Experience required.	Questions.		Scholarship requirements.
		Territory.	Schools.				Prepared by—	Examined by—	
Nonstandard—Class III.....	State superintendent of public instruction.	State.....	In high schools.	Life.....	.....	30 months in Oregon.	.....	.....	.....
One-year State certificate.	.....do.....	do.....	All.....	1 year.....	Renewable after 6 months' experience.	.....do.....	do.....	do.....	.....
Special certificate: Library, music, agriculture, art, manual training, penmanship, kindergarten, domestic science, commercial subjects, physical education, languages.	.....do.....	do.....	Special subjects only.	Not stated.....	Not stated.....	.....	.....	.....	.....
Temporary county certificate.	County superintendent.	County.....	All schools.....	Until next regular examination.	.....	.....	.....	.....	Applicant within a period of 3 years.

NOTE.—No certificate to teach in any elementary school shall be issued to any person unless he has completed an elementary teachers' training course or its equivalent—equivalency determined by State superintendent of public instruction.

PENNSYLVANIA.

Permanent State certificate.	Superintendent of public instruction.	State.....	Branches named.	Life.....	4 school terms (2 years or more on provisional certificate and 2 years or more on professional certificate).	Examining board. Special branches by department of public instruction.	Examining board. Special branches by department of public instruction.
College certificates: Permanent.....	.....do.....	.....do.....	.....do.....	.....do.....	3 years in State.	None required.	None required.
Provisional.....	.....do.....	.....do.....	.....do.....	3 annual school terms.	None.....	.....do.....	.....do.....
State normal school diploma. ¹	State normal school.	.....do.....	.....do.....	Life.....	2 school terms in State.	.....do.....	.....do.....
State normal school certificate. ¹	.....do.....	.....do.....	.....do.....	2 annual school terms.	None.....	.....do.....	.....do.....
Special certificates: Kindergarten, drawing, vocal music, manual training, physical training, etc.	.....do.....	.....do.....	.....do.....	Term of years and of life.	.....do.....	.....do.....	.....do.....

¹ Diplomas are issued by Pennsylvania State normal schools to graduates who have 2 years of teaching experience. Certificates are issued to graduates without experience.

State laws and regulations concerning teachers' certificates—Continued.

PENNSYLVANIA—Continued.

Name of certificate.	Issued by—	Valid in—		Duration.	Persistence.	Experience required.	Questions.		Scholarship requirements
		Territory.	Schools.				Prepared by—	Examined by—	
Professional certificate.	County or district superintendent.	County or district. (In districts by other county or district superintendents in districts of second or third class.)	Branches named.	3 years.....	Renewable upon examination in any 2 of the additional branches required for professional certificate. Must read 2 additional books on pedagogy approved by State superintendent. Not renewable more than 3 times. May not teach more than 6 school terms on a provisional certificate.	2 full school terms.	County or district superintendent.	County or district superintendent.	Examination in all branches required for a provisional certificate and in addition any two of the following:
Provisional certificate.	.....do.....	County or district. (Nonindorsable).	.....do.....	1 year.....	None.....	None.....	.....do.....	.....do.....	approved for such purposes by the State superintendent.

RHODE ISLAND.

Superintendent's certificates: (1) First-grade permanent.	State board of education.	State.....	All schools as superintendent.	Permanent.....	10 years as superintendent.	Graduation from approved colleges or normal school.
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First-grade temporary.	do.	do.	do.	do.	5 years or until holder qualifies for permanent first-grade certificate.		5 years as superintendent. ¹		Graduation from approved college or normal school.
(2) Second-grade permanent.	do.	do.	do.	do.	Permanent.				Evidence of character and education satisfactory to the State board of education.
Second-grade temporary.	do.	do.	do.	do.	5 years or until holder qualifies for permanent second-grade certificate.		10 years as superintendent. ¹		Do.
(3) Third-grade temporary.	do.	do.	do.	do.	1 year.	Nonrenewable.	5 years as superintendent. ¹		
First-grade certificate.	do.	do.	do.	High schools.	3 years.	Renewed for two periods of 6 years each for satisfactory service; permanent on 15 years' experience.	None.	State board of education.	State board of education.
Second-grade certificate.	do.	do.	do.	Elementary schools.	2 years.	Renewed for 4 years, then 9 years for satisfactory service; permanent on 15 years' experience.			
Third-grade certificate.	do.	do.	do.	All.	do.	Renewed for 4 years, thereafter for 6-year periods for service proved successful.		State board of education.	State board of education.

law.

¹ In lieu of five years' experience as superintendent special training for superintendence through professional courses in supervision and administration pursued for not less than 1 year at an approved college or normal school or 10 years' successful experience as a teacher may be accepted. No permanent certificate may be granted unless applicant has 5 years' experience as superintendent.

State laws and regulations concerning teachers' certificates—Continued.
RHODE ISLAND—Continued.

Name of certificate.	Issued by—	Valid in—		Duration.	Persistence.	Experience required.	Questions.		Scholarship requirements.
		Territory.	Schools.				Prepared by—	Examined by—	
Fourth-grade certificate.	State board of education.	State.....	All schools as superintendent.	1 year.....	Nonrenewable and conditional.	.....	State board of education.	State board of education.	Issued to those who pass a scholarship examination.
Special certificates: Music, penmanship, physical culture, book-keeping, or other subjects at discretion of State board.	.....do.....	.....do.....	High school in special subject only.	2 years.....	.....	Satisfactory to State board.	.....	.....	.....
Temporary certificate.	.....do.....	.....do.....	High school.....	Until next examination.	Not renewable	.....	.....	.....	.....
Special emergency certificate.	.....do.....	.....do.....	Elementary schools.	.....do.....	.....do.....	None.....	.....	.....	.....

NOTE.—Every applicant for first, second, or third grade certificate is required to pass examination in Rhode Island education, including history of Rhode Island education and Rhode Island school law.

SOUTH CAROLINA.

Name of certificate.	Issued by—	Valid in—		Duration.	Persistence.	Experience required.	Questions.		Scholarship requirements.
		Territory.	Schools.				Prepared by—	Examined by—	
State certificate.....	State superintendent.	State.....	All schools.....	10 years.....	Not stated.....	2 years.....	.....	.....	..... year.

Do.....	State board of education.	do.....	do.....	5 years.....	May be re-nued for 5 years and again for life on evidence of "Continued successful professional experience."	(a) 5 years, (b) none, (c) 1 year.	do.....	do.....	do.....	course with degree of B. A
Special 5-year high-school certificate.	do.....	do.....	High schools.	do.....	Renewable on evidence of experience and professional improvement.	do.....	State board of education.	State board of education.	do.....	
Professional certificate.	do.....	do.....	Primary and elementary.	do.....	do.....	do.....	do.....	do.....	do.....	
Special certificates: Kindergarten, music, and industrial subjects.	do.....	do.....	Special subject.	Not specified. Discretion of State board.	do.....	do.....	do.....	do.....	do.....	
County certificates: 1—First-grade. 2—Second-grade. 3—Third-grade.	County board of education.	County registration in any other county permitted.	All schools.	2 years.....	First and second grade renewable at option of board if institutes attended; third-grade can not be renewed.	None.....	do.....	County board of education.	do.....	
County certificates without examination.	do.....	do.....	do.....	do.....	Optional.....	do.....	None.....	None.....	do.....	
Teachers' normal diploma.	State board of education	State.....	do.....	Life.....	do.....	do.....	do.....	do.....	do.....	

State laws and regulations concerning teachers' certificates—Continued.

SOUTH DAKOTA.

Name of certificate.	Duration.	Persistence	Experience required.	Questions.		Scholarship requirements
				Prepared by—	Examined by—	
Life, professorial diploma.	life.....	.....	72 months, 36 of which is in South Dakota.	.....	.....
Provisional diploma.	years.....	.....	None.....	.....	.....
Life diploma.	During good behavior.	.....	(a) 40 months. (b) None.	State board of examiners.	State board of examiners.	Is satisfactory proficiency in the

State laws and regulations concerning teachers' certificates—Continued.
SOUTH DAKOTA—Continued.

Scholarship requirements.

Name of certificate.
First-grade certificate.

Second-grade certificate.

State laws and regulations concerning teachers' certificates—Continued.
SOUTH DAKOTA—Continued.

Name of certificate.	Issued by—	Valid in—		Duration.	Persistence.	Experience required.	Questions.		Scholarship requirements.
		Territory.	Schools.				Prepared by—	Examined by—	
Primary certificate.	State superintendent.	In county in which issued in cities and towns. May be made valid in any other county by endorsement of county superintendent.	Kindergarten, first and second grades in cities and towns.	5 years.	Renewable on successful teaching experience and continued professional spirit.	.....	State board of examiners.	State board of examiners.	
Vocational certificate: Manual training, domestic science, agriculture, music, drawing, commercial subjects, penmanship, kindergarten, methods, art.	.....do.....	State.....	Any school in subjects named.	.....do.....	.....do.....	.....	.....do.....	.....do.....	(a) Applicant must show proficiency in all the subjects required for the State certificate except current events.

State laws and regulations concerning teachers' certificates—Continued.

TENNESSEE—Continued.

Name of certificate.	Issued by—	Valid in—		Duration.	Persistence.	Experience required.	Questions.		Scholarship requirements.
		Territory.	Schools.				Prepared by—	Examined by—	
First-grade elementary certificate.	State superintendent.	State.....	Elementary schools.	5 years.....	Renewable requirements prescribed by State board of education.	8 months.....	State board of examiners.	State board of examiners.	
Second-grade high school certificate.	do.....	do.....	do.....	2 years.....	Renewable on satisfactory work in 3 courses in summer schools approved by the State board of education.	None.....	do.....	do.....	
Second-grade elementary certificate.	do.....	do.....	do.....	do.....	do.....	do.....	do.....	do.....	Examination in same subjects as for first-grade certificate.
Temporary certificate.	do.....	In county in which issued.	do.....	Until next examination.	do.....	do.....	do.....	do.....	Issued in case of emergency. Not more than two certificates shall be issued to the same person.

TEXAS.

Name of certificate.	Issued by—	Valid in—		Duration.	Persistence.	Experience required.	Questions.		Scholarship requirements.
		Territory.	Schools.				Prepared by—	Examined by—	
Permanent State certificate: (1) Without examination.	State superintendent.	State.....	Any.....	Life, or during good behavior.	.....	None, or 3 years in State.	No examination required.	No examination required.	

(2) Upon ex- amination.	do	do	do	do	do	do	None	State depart- ment of education.	State board of examiners.
Texas State Nor- mal College di- ploma.	do	do	do	do	do	do	do	No examina- tion re- quired.	No examina- tion re- quired.

State laws and regulations concerning teachers' certificates—Continued.

TEXAS—Continued.

Name of certificate.	Issued by—	Valid in—		Duration.	Persistence.	Experience required.	Questions.		Scholarship requirements.
		Territory.	Schools.				Prepared by—	Examined by—	
State permanent primary certificate.	State superintendent.	State.....	All grades below the high schools.	Life or during good behavior.	May build to permanent State certificate during first 6 years.	None, or 3 years in State.	State department of education.	State board of examiners.	
State kindergarten certificate:									
(1) Permanent	.....do.....	.....do.....	Kindergarten.	.....do.....		3 years' successful experience in kindergarten of State.	No examination required.	No examination required.	Holder of a valid temporary State kindergarten certificate after 3 years' experience.
(2) Temporary.	.....do.....	.....do.....	.....do.....	2 years.....		None.....	.....do.....	.....do.....	required grace.

Texas State Normal College certificate: (1) First grade (2) Second grade.	State board of education.	do.	Any.	6 and 7 years.	do.	do.	do.	do.	Completion of 2 years' work in a Texas State normal college.
	do.	do.	Any grade below the high school.	4 years.	do.	do.	do.	do.	Completion of 1 year's work in a Texas State normal college.
First-grade State certificate: (1) Upon examination.	State superintendent.	do.	Any.	4 or 6 years.	do.	do.	do.	do.	State board of examiners.
	do.	do.	do.	6 years.	do.	do.	do.	do.	State department of education.
(2) Without examination.	do.	do.	do.	do.	do.	do.	do.	do.	No examination required.
First-grade State certificate without examination.	do.	do.	do.	2 years.	do.	do.	do.	do.	No examination required.

State laws and regulations concerning teachers' certificates—Continued.

TEXAS—Continued.

Name of certificate.	a.	Persistence.	None.....	State department of education.	State board of examiners.	
Second-grade State certificate.	or 4 (see oi-)	May build to first grade or permanent primary certificate.	None.....			
Second-grade county certificate.	.....	Only 1 to same individual.	do.....	do.....	do.....	no grade less than 80 per cent render certificate valid for 4 years. Do.
City certificate: Permanent (high school, first-grade primary).	good f.	Varies.....	3 years in Texas.	City board of examiners.	City board of examiners.	lower by law or corresponding grade.
Temporary (high school, first grade, second grade).	ore years.	As determined by board of trustees, based upon reading, attendance upon city institutes, or other means of professional growth.	None.....	do.....	do.....	Same, except omit "permanent."

NOTE.—Texas State normal colleges give courses of 1 year, 2 years, and 4 years' duration above 4-year high school.

UTAH.

Diploma in school administration.	State board of education.	State....	All schools.....	Life.....		5 years in administration or supervision, 2 in Utah.				Issued to graduates of standard
Certificate in school administration.	.....do.....	.....do..	.....do.....	5 years.....						
Do.....	.....do.....	.....do.....	.....do.....	2 years.....						
Diploma in supervision of health work, primary grades, grammar grades and special subjects.	.....do.....	.....do.....	.....do.....	Life.....		5 years in supervision, 2 in Utah.				

State laws and regulations concerning teachers' certificates—Continued.

UTAH—Continued.

Name of certificate	Issued by—	Valid in—		Duration	Persistence.	Experience required	Questions.		Scholarship requirements.
		Territory.	Schools.				Prepared by—	Examined by—	
Certificate in supervision.	State board of education.	State	All schools	5 years					
Do.	do.	do.	do.	2 years					
Special certificate in school nursing.	do.	do.	do.	1 year					
Diploma of high school grade.	do.	do.	do.	Life.		5 years; 2 in Utah.			
Professional high school certificate.	do.	do.	do.	5 years					
Temporary high school certificate.	do.	do.	do.	1 year	5 additional semester hours in education for each renewal.	1 year.			
Junior high school certificate.	do.	do.	Elementary and junior high school.	do.					

Diploma of grammar grade.	.....do.....	.....do.....	.....do.....	.....do.....	6 years; 2 in Utah.	.....do.....	.....do.....
First-class certificate.	.....do.....	.....do.....	.....do.....	.....do.....	5 years.	Not renewable but may be extended upon 6 semester hours of college work.	2 years.
Second-class certificate.	.....do.....	.....do.....	.....do.....	.....do.....	2 years.	Not renewable; holder is expected to complete work required for first-class certificate by expiration of second-class certificate.	State board of education.
							State board of education.

State laws and regulations concerning teachers' certificates—Continued.

UTAH—Continued.

Name of certificate.	Issued by—	Valid in—		Duration.	Persistence.	Experience required.	Questions.		Scholarship requirements.
		Territory.	Schools.				Prepared by—	Examined by—	
Third-class certificate.	State board of education.	State.....	All schools.....	1 year.....	Renewable upon 5 semester hours of approved college work until requirements for second-class certificate are met.	1 year.....	State board of education	State board of education.	
High school diploma in a special subject.	do.....	do.....	All schools in subject named.	Life.....		5 years in special subject; 2 in Utah.			
Grammar grade diploma in a special subject.	do.....	do.....	Elementary	do.....		do.....			
Special certificate in art, music, military tactics, foreign language, domestic arts, carpentry, commercial subjects, and physical education.	do.....	do.....	In subject named on certificate.	1 year.....	Special certificates in art, music, or military tactics, renewable upon recommendation of superintendent. ¹				

¹ Certificates in other subjects named renewable upon 5 semester hours of approved college work.

VERMONT.				
Law certificate....	State board of education.	In districts in which issued.	All schools....	Life....
Qualification cer- tificates.	.....do.....	.....do.....	.....do.....	5 years from date of issue.
				May be re- newed twice on recom- mendation of the super- intendent in whose dis- trict said person last taught.
				(a) 30 weeks (b) 30 weeks (c) 30 weeks (d) 30 weeks
				(a) 170 weeks (b) not state (c) not state

State laws and regulations concerning teachers' certificates—Continued.

VERMONT—Continued.

Name of certificate.	Issued by—	Valid in—		Duration.	Persistence.	Experience required.	Questions.		Scholarship requirements.
		Territory.	Schools.				Prepared by—	Examined by—	
Qualification certificate.	State board of education.	In district in which issued.	All schools....	5 years from date of issue.	May be renewed twice on recommendation of the superintendent in whose district said person last taught.	(a) 30 weeks (b) 90 weeks (c) 30 weeks (d) 30 weeks			
Probationary certificates.	do.	State.	do.	For school year in which issued.	do.	(a) None. (b) None. (c) 30 weeks.			
Permits.	do.	In district in which issued.	do.	Not more than 12 weeks.			A.		on application of a superintendent.

NOTE.—State aid is granted as follows: 1. (a) \$4 per week for each teacher who holds a life certificate issued on or after July 1, 1916; (b) \$3 per week for each teacher who holds a qualification certificate or who is a graduate of a 2-year normal school course; (c) \$2 per week for each teacher who holds a probationary certificate. 2. Special certificates for special subjects are issued at

VIRGINIA.

Collegiate professional certificate.	State board of education.	State.....	All schools when incurred by division superintendent.	10 years.....	Renewable for similar period if the holder has read at least 5 books of the State reading course and has attended an approved summer school at least 30 days, with professional courses included, or in lieu of summer school attendance passed an examination on reading courses.	(4)
Normal professional certificate.	.....do.....	.....do.....	Elementary and first 2 years' high school if based on academic course of normal school.	.....do.....	.....do.....	
Elementary professional certificate.	.....do.....	.....do.....	Elementary.....	6 years.....	Renewable for 6 years on conditions given above.	

State laws and regulations concerning teachers' certificates—Continued.

VIRGINIA—Continued.

Name of certificate.	Issued by—	Valid in—		Duration	Persistence.	Experience required.	Questions.		Scholarship requirements.
		Territory.	Schools.				Prepared by—	Examined by—	
Collegiate certificate.	State board of education.	State	All	5 years	Renewable for 10 years on conditions given above.	.....	.....	.....
First-grade certificate.	.....do.....	.....do.....	Elementary .....	.....do.....	Renewable for 5 years on conditions given above.	7 months	State department of public instruction.	State department of public instruction.	

WASHINGTON.									
Life diploma.	Regents of authorized State institution.	State.	All schools.	Life.	2 years.				Same as for normal diploma.
Second-grade certificate.	do.	do.	do.	2 years.	Renewable for 2 years on conditions given above and limited to one renewal.	do.	do.	do.	
Special certificates for high school subjects and agriculture, drawing, music, domestic arts, manual training.	do.	do.	Subject named	6 years.	Renewable for 6 years on conditions given above.				
Local permit.	do.	Local, county, or division in which issued.	Elementary.	1 year.					

State laws and regulations concerning teachers' certificates—Continued.

WASHINGTON—Continued.

Name of certificate.	Issued by—	Valid in—		Duration.	Persistence.	Experience required.	Questions.		Scholarship requirements.
		Territory.	Schools				Prepared by—	Examined by—	
Life certificate.....	State superintendent.	State.....	All schools.....	Life.....		45 months not less than 27 months of which shall be in this State.	State department of education.	State department of education.	
Normal diploma....	Board of regents of University of Washington.	...do....	...do....	5 years.....	May be converted into life certificate after 24 months' experience.				education.
Normal diploma....	Regents of State College of Washington.	...do....	...do....	...do....	...do....				Graduation from the Washington State College, the course of which includes 12 semester hours in the department of education.

Normal school elementary diploma.	Board of trustees of State normal schools.	do.	Elementary schools. ¹	do.	Renewable for like period or for life after 24 months of successful teaching experience.				Applicant must have completed the 2-year elementary course in the State normal school.
Special normal school diploma.	do.	do.	(v), (v), (v)	do.	do.				Applicant must have completed a 3-year advanced course in a State normal school.
Advanced special normal diploma (after 1920).	do.	do.	All schools.	do.	do.	Renewable for like period or normal life diploma if applicant has 24 months of successful experience. May be renewed twice for attendance at professional schools.	9 months.	State department of education.	Applicant must have completed a 4-year advanced course in the State normal school.
First-grade elementary certificate.	State superintendent.	do.	Elementary schools.	do.	do.				
Normal school elementary certificate.	Board of trustees of State normal schools.	do.	do.	2 years.	do.				

¹ Grades in which holder is best qualified to teach given on reverse side of diploma.

² As special teachers of manual training and home economics for small school systems in which there is less than a four-year high school course where a single special teacher in either of these special lines is employed for both elementary and high school work.

³ As principals of nine-year school systems where the principal must teach and supervise both elementary and secondary work.

⁴ As departmental teachers in school systems where teachers instruct in one or more subjects of the seventh, eighth, and ninth grades.

State laws and regulations concerning teachers' certificates—Continued.

WASHINGTON—Continued.

Temporary certifi- cate.do.....	Territory under juris- diction of super- intendent who issued certifi- cate.	Grades spec- ified.	Until next ex- amination.	Nonrenewable and issued once only to same appli- cant.	(a) None. (b) 9 months. (c) 9 months. (d) None.	(e) Applicant who holds ac- credited name including 12
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WEST VIRGINIA.

State life certifi- cate.	State superin- tendent.	State.....	All schools.....	Life.....	10 years.....
Supervisor's certifi- cate.	.....do.....	.....do.....	.....do.....	5 years.....	Renewable for 5-year peri- ods if holder is actively engaged in school work.	2 years on first- grade certifi- cate or equiv- alent experi- ence.	State superin- tendent.	State superin- tendent.	progress.

*State laws and regulations concerning teachers' certificates—Continued.***WEST VIRGINIA—Continued.**

Name of certificate.	Issued by—	Valid in—		Duration.
		Territory.	Schools.	
High school certificate.	State superintendent.	State	All schools . . .	5 years

Normal school certificates.	.....do.....	Elementary and high schools.	6 years.....	Normal school certificates, if renewed as such are subject to the same regulations as elementary certificates. (See renewal of elementary certificates.) Any school certificate may be changed into a supervisor's certificate.	.....do.....	.....do.....	.....do.....	.....do.....
Elementary certificates: First grade.....	.....do.....	All.....	.....do.....	Renewable once upon successful experience and recommendation of the county superintendent. Second renewal on recommendation of county superintendent and successful examination in 2 reading circle books. After that may be renewed for life. ¹	.....do.....	.....do.....	.....do.....	.....do.....

¹ All certificates issued after July 1, 1922, of 6 years' duration or more may be renewed for successful experience and reading circle work or upon recommendation of the county superintendent.

² From July 1, 1922, to June 30, 1924, applicants for first-grade certificates must have at least 1 year of high-school work and 9 weeks of professional study as a prerequisite. From July 1, 1924, to June 30, 1926, applicants for first-grade certificates must have at least 2 years of high-school work and 13 weeks of professional study as a prerequisite. From July 1, 1926, to June 30, 1928, applicants for first-grade certificates must have at least 3 years of high-school work and 27 weeks of professional study as a prerequisite.

State laws and regulations concerning teachers' certificates—Continued.
WEST VIRGINIA—Continued.

Name of certificate.	Issued by—	Valid in—		Duration.	Persistence.	Experience required.	Questions.		Scholarship requirements.
		Territory.	Schools.				Prepared by—	Examined by—	
Elementary certificates—Common. Second grade.	State superintendent.	State.	Elementary schools as teachers, but not principals.	3 years.	Not renewable.		State superintendent.	State superintendent.	Issued to applicants who attain a general average of 80 per cent with no branch below
Third grade.	do.	do.	do.	1 year.	do.		do.	do.	
Short-course certificate.	do.	do.	Elementary schools as teachers, but not principals, and junior high school.	3 years.	Renewable for a 3-year period for successful experience credits in an approved high or normal school.				
Special certificates: Primary, kindergarten, music, drawing, physical training, home economics, manual training, agriculture. (Special certificates in other subjects may be added as the needs of the schools may require.)	do.	do.	Subjects specified.	do.	do.	For primary certificate 2 years' experience on first or second grade certificate.			

Emergency certificate.	.....do.....	In county designated.	.....do.....	Until June 30 following the issue of certificate.	.....	.....	.....	.....	.....	.....	person.
WISCONSIN.											
Unlimited State certificate: (a).....	State superintendent on recommendation of the State board of examiners.	State.....	All.....	Life.....	.....	.....	.....	.....	.....	.....	.....
				2 years.....							

State laws and regulations concerning teachers' certificates—Continued.

WISCONSIN—Continued.

Name of certificate	Issued by—	Valid in—		Duration.	Persistence.	Experience required.	Questions.		Scholarship requirements.
		Territory.	Schools.				Prepared by—	Examined by—	
Unlimited State certificate—Con. (b).....	State superintendent.	State.....	All or to teach the subjects included in the license previously issued.	.....	.....	2 years.....	.....	.....	.....
(c).....	Same as (a).....	do.....	Any public school or as principal of a free high school	.....	.....	1 year.....	.....	.....	.....
County superintendent's certificate.	State superintendent.	do.....	All.....	Life.....	.....	8 months in Wisconsin.	Board of examiners.	Board of examiners.	the supervision and manage-

Limited State certificate: (a).....	Same as for (a) above.	.....do.....	Any public school but not as principal or a free high school having a 4-year course.	5 years.....	Not renewable	.....	.....	.....
(b).....	.....do.....	.....do.....	.....do.....	1 year.....	Renewable for 1 year.	None required	.....	.....
(c).....	State superintendent.	.....do.....	.....do.....	.....do.....	.....do.....	.....do.....	.....	.....
First-grade county certificate.	County superintendent.	Superintendent's district where issued.	All.....	5 years.....	Renewable for 5 years after satisfactory experience and completion of required reading circle work or renewed on re-examination.	8 months.....	County superintendent.	County superintendent.

State laws and regulations concerning teachers' certificates—Continued.

WISCONSIN—Continued.

Name of certificate.	Issued by—	Valid in—		Duration.	Persistence.	Experience required.	Questions.		Scholarship requirements.
		Territory.	Schools.				Prepared by—	Examined by—	
First-grade county certificate.	County superintendent.	Superintendent's district where issued.	All.....	5 years.....	Renewable for 5 years after satisfactory experience and completion of required reading circle work or renewed on re-examination. May be renewed after 3 years' successful experience if applicant attends professional school for teachers at least 6 weeks and receives credit in at least 2 required subjects or passes an examination in 2 subjects required for first-grade certificate and completes courses required by State reading circle board.	8 months.....	County superintendent.	County superintendent.	
Second-grade county certificate.	do.....	County in which issued.	do.....	3 years.....		do.....	do.....	do.....	

Special license for manual training, domestic science, or other subjects legally authorized.	State superintendent.	State.....	Any school in special subjects for which licensed.	1 year.....	Renewable for 1 year.	None required.	Graduation from regular course in subject for which issued, as enumerated in column 1,
Special license in commercial subjects, agriculture, manual training, domestic science, kindergarten, and deaf.	do.....	do.....	Any school in the branches indicated. Kindergarten and first and second grades. Deaf in grades below high school.	do.....	Renewable for 1 year after successful experience.		
State license.....	do.....	do.....	Any.....	do.....	do.....		graduated.

State laws and regulations concerning teachers' certificates—Continued.

WISCONSIN—Continued.

Name of certificate.	Issued by—	Valid in—		Duration.	Persistence	Experience required.	Questions.		Scholarship requirements.
		Territory.	Schools.				Prepared by—	Examined by—	
Third-grade county certificate.	County superintendent.	County in which issued. ⁴	Any.....	Not more than 1 year.	May be renewed if holder attends professional school for teachers for a period of at least 6 weeks and receives credit in at least 2 subjects required for a second-grade certificate or passes an examination in 2 such subjects. Applicant must also complete work prescribed by State reading circle board.	None required.	County superintendent.	County superintendent.	Librarian. ⁵
Special certificate.	do.....do.....	do.....do.....	do.....do.....	do.....do.....					

⁴ (See footnote on p. 191.)⁵ It shall not be lawful for any superintendent to endorse a certificate issued by any other superintendent. However, if holders of certificates desire to teach in another county in the State, the superintendent of said county may request a transfer of applicant's papers, and if they are satisfactory may issue certificate on basis of same.

WYOMING.

Administrative certificate (Class 1).....	State board of education.	State.....	Principal of high school, superintendent of schools, grades 1-12. County superintendent.	Life.....	.....	3 years.....	.....
Class 2.....	.....do.....	.....do.....	Principal of high school, grades 9-12. Superintendent of school system, grades 10. County superintendent.	4 years.....	Renewed indefinitely for 3-year period.	2 years.....	.....
Class 3.....	.....do.....	.....do.....	Principal of school grades, 1-10, and county superintendent.	3 years.....	.....do.....	1 year.....	.....
High-school certificate.	.....do.....	.....do.....	Grades 7-12...	Life.....	.....	3 years.....	.....

State laws and regulations concerning teachers' certificates—Continued.

WYOMING—Continued.

Name of certificate.	Issued by—	Valid in—		Duration.	Persistence.	Experience required.	Questions.		Scholarship requirements.
		Territory	Schools.				Prepared by—	Examined by—	
High-school certificate—Continued. Class 2.....	State board of education.	State.....	Grades 7-12....	4 years.....	Renewed indefinitely for 3-year period.	2 years.....	.....	.....	.....
Class 3.....	do.....	do.....	Grades 7, 8, 9, and 10.	3 years.....	do.....	1 year.....	.....	.....	.....
Elementary city school certificate: Professional class.	do.....	do.....	City elementary schools and rural schools under certain conditions.	Life.....	.....	3 years.....	.....	.....	.....
Class A.....	do.....	do.....	do.....	3 years.....	May be renewed 3 times for 3-year period. Renewable twice for 2-year period.	2 years.....	.....	.....	.....
Class B.....	do.....	do.....	do.....	3 years.....	.....	None.....	.....	.....	.....

State laws and regulations concerning teachers' certificates—Continued.
WYOMING—Continued.

Name of certificate.	Issued by—	Valid in—		Duration.	Persistence.	Experience required.	Questions.		Scholarship requirements.
		Territory.	Schools.				Prepared by—	Examined by—	
Rural school certificate—Contd. Class B.....	State board of education.	State.....	Rural and elementary city schools.	2 years.....	May be renewed twice for 2-year period.	1 year.....	.....	.....
Class C.....	.....do.....	.....do.....	Rural schools..	1 year.....	May be renewed once for 2-year period.	None.....	.....	.....
Class: Advanced State high school normal training department certificate.	.....do.....	.....do.....	.....do.....	2 years.....	May be renewed twice for 2-year periods.	.....do.....	.....	.....
State high school normal training department certificate.	.....do.....	.....do.....	.....do.....	1 year.....	May be renewed once for 2-year period.	.....do.....	.....	.....
Rural school certificate by examination: Class A.....	.....do.....	.....do.....	Rural and elementary city schools.	3 years.....	May be renewed 3 times for 2-year periods.	2 years.....	.....	.....

Class B.....	.....do.....	.....do.....	.....do.....	2 years.....	May be renewed twice for 2-year periods.	1 year.....	Certification of division of State department of education.	Certification of division of State department of education.
Class C.....	.....do.....	.....do.....	Rural schools.	1 year.....	May be renewed once for 2-year period.	Note.....	.....do.....	.....do.....
Special certificate on credentials.	.....do.....	.....do.....	In special department mentioned on certificate.	Life.....		2 years.....	.....do.....	.....do.....

¹ If applicant has no credit in education he may qualify by taking an examination and making a minimum grade of 80 per cent in principles of teaching.

State laws and regulations concerning teachers' certificates—Continued.

WYOMING—Continued.

Name of certificate.	Issued by—	Valid in—		Duration.	Persistence.	Experience required.	Questions.		Scholarship requirements.
		Territory.	Schools.				Prepared by—	Examined by—	
Special certificates upon examination: Agriculture, home economics, manual training, physical education, commercial branches, penmanship, music, primary kindergarten, stenography, typewriting, foreign languages. Temporary certificate.	State board of education. do.....	State.....	In special department mentioned on certificate.	5 years..... Until the next regular examination.	Renewed indefinitely for 3-year periods.	2 years.....	Certification of division of State department of education.	Certification of division of State department of education.	

NOTE.—Exemption certificates granted on the basis of credits from the State normal school of State University of Wyoming may be granted on credits from other normal schools and colleges of equivalent rank.

INFORMATION CONCERNING HIGH-SCHOOL CERTIFICATES.

STATES WHICH ISSUE SPECIAL HIGH-SCHOOL CERTIFICATES.

Colorado.	Maine.	Oklahoma.
Delaware.	Maryland.	Oregon.
Georgia.	Massachusetts.	Rhode Island.
Idaho.	Nebraska.	South Carolina.
Illinois.	Nevada.	Tennessee.
Indiana.	New Hampshire.	Utah.
Iowa (included in special subject certificates).	New Jersey.	Virginia.
Kentucky.	New Mexico.	West Virginia.
Louisiana.	North Carolina.	Wyoming.
	Ohio.	

REQUIREMENTS FOR HIGH-SCHOOL CERTIFICATES.

<i>Issued on examination:</i>	<i>Issued for college work:</i>	<i>Issued for college work—Con.</i>
Connecticut.	Delaware.	New Jersey.
Georgia.	Idaho.	New Mexico.
Indiana.	Illinois.	North Carolina.
Louisiana.	Iowa. (4-year normal).	Ohio.
Maine.	Kentucky.	Oklahoma.
Nevada.	Maine.	Oregon.
North Carolina.	Maryland.	Rhode Island.
Rhode Island.	Massachusetts.	Tennessee.
South Carolina.	Nebraska.	Utah.
Tennessee.	Nevada.	West Virginia.
West Virginia.	New Hampshire.	Wyoming.

SPECIAL TRAINING IN SUBJECTS TAUGHT.

Utah: High-school diploma in special subject. (Graduates of standard colleges or equivalent with special study in subject taught.)

Virginia: Special certificate for high-school subjects. (No college work required but must show adequate preparation in branches specified in certificates.)

Indiana requires examination in subjects taught in high school and in education.

New Jersey requires either examination in subjects to be taught or a prescribed number of credits in such subjects included in college course.

TABLE 4.—Summary of certificates issued by central, county, and local agencies.

States.	Grand total.	Central agencies.				County agencies.			Local agencies.
		Total.	Valid in—			Total.	Valid in—		
			State.	County.	Town or district.		County.	District.	
Alabama.....	6	6	6						
Arizona.....	6	6	6						
Arkansas.....	12	8	8			4	4		
California.....	12	4	4			18	8		
Colorado.....	9	5	5			3	3		1
Connecticut.....	10	8	8						2
Delaware.....	14	13	13			1	1		
Florida.....	14	14	13	1					
Georgia.....	14	5	5			9	9		
Idaho.....	9	6	6			3	3		
Illinois.....	10	3	3			7	7		
Indiana.....	31	25	25			6	6		
Iowa.....	11	11	11						
Kansas.....	15	12	12			3	3		
Kentucky.....	9	7	7			2	2		
Louisiana.....	4	4	4						
Maine.....	10	9	9						1
Maryland.....	11	11	11						
Massachusetts.....	6	5	5						1
Michigan.....	17	11	11			6	5	1	
Minnesota.....	10	10	10						
Mississippi.....	18	10	10			8	8		
Missouri.....	12	7	7			5	5		
Montana.....	15	15	14		1				
Nebraska.....	13	11	9		2	2	2		
Nevada.....	10	10	9		1				
New Hampshire.....	10	10	10						
New Jersey.....	30	20	20			15	15		15
New Mexico.....	7	7	7						
New York.....	15	10	9		1				15
North Carolina.....	15	15	15						
North Dakota.....	9	9	9						
Ohio.....	18	6	6			6	6		6
Oklahoma.....	14	11	10	1		3	3		
Oregon.....	15	14	14			1	1		
Pennsylvania.....	8	6	6			2	2		
Rhode Island.....	12	12	12						
South Carolina.....	10	6	6			4	4		
South Dakota.....	10	10	7	3					
Tennessee.....	8	8	7	1					
Texas.....	15	12	12			1	1		2
Utah.....	16	16	16						
Vermont.....	4	4	3		1				
Virginia.....	8	8	7	1					
Washington.....	14	10	10			12	12		12
West Virginia.....	10	10	9	1					
Wisconsin.....	16	12	12			4	4		
Wyoming.....	23	23	22		1				
United States.....	595	475	460	8	7	95	94	1	25

¹ District, village, or city, all classed as local here.
² Temporary or special in name or significance.
³ There are 5 separate varieties of life certificates and 4 varieties of State certificates, and they are divided here because of certain characteristics tabulated.
⁴ Good in districts organized under Arts. XXII and VI, also one for all districts except cities of 1,000 population.
⁵ Issued by city and county authorities.
⁶ One certificate issued either by State or county board.
⁷ Districts of over 5,000 population may issue certificates under certain conditions.

TABLE 5.—Certificates issued by central agencies that are valid throughout the State, distribution among the respective classes of schools, and duration of such certificates.

States.	No.	Any school.		High school.		Elementary.		Primary and kindergartens.		School subjects named.	
		No.	Duration.	No.	Duration.	No.	Duration.	No.	Duration.	No.	Duration.
Alabama.....	6		2,								
Arkansas.....	7		1, 2,							1	T. ²
Arizona.....	5					1	2,			1	4.
California.....	4					1	L.	1	L.	1	L.
Colorado.....	3										
Connecticut.....	8					1	1,	1	1,	1	T. ³
Delaware.....	13		3	3, 3, 3,		5	3, 3, 3, 2, 2,	1	3,	1	■
Florida.....	13		5,					3	L, 4, 4,	2	5, 5.
Georgia.....	5		1,							1	3.
Idaho.....	6		3	L, 5, 1,						1	8.
Illinois.....	3		1	4,		1	4,				
Indiana.....	25		8,	1	L,	6	L, 4, 3, 3, 2, 1,	6	3, 3, 2, 2, 1, 1,	7	4, 3, 3, 2, 2, 1, 1,
Iowa.....	11		3,					1	5,	1	3.
Kansas.....	12		1,			4	L, 3, 3, 2,			3	L, 3, 1.
Kentucky.....	7		2, 1	1	T. ²						
Louisiana.....	4		1	5,		3	5, 3, 1,				
Maine.....	9		4	L, L, 5, 2,		4	L, L, 2, T. ²			1	2.
Maryland.....	11		2	3, 3,		5	3, 3, 3, 2, 2,			3	3, 3, 2.
Massachusetts.....	5		3	L, 2, 2,							
Michigan.....	11		L,			1	3,	1	L,	2	L, L.
Minnesota.....	10					5	L, 5, 2, 2, 1,			1	1.
Mississippi.....	10		2,							1	T. ²
Missouri.....	7		2	L, 2,		3	L, L, 2,				
Montana.....	14		L, 6, T.								
Nebraska.....	9		2	3, 3, ⁴		5	3, 3, 3, 3, 3,			1	3.
Nevada.....	9		3	L, 5, 4,		5	L, 5, 3, 2, T.			1	2.
New Hampshire.....	9		3	L, L, 1,		4	L, L, 1, 1,				
New Jersey.....	23		2	L, 1,		2	L, 1,	2	L, 1,	14	L, L, L, L, L, 3, 1, 1, 1, 1, 1, 1, 1, 1,
New Mexico.....	7		1	5,		3	3, 2, 1,			1	1.
New York.....	10		5,			3	L, L, 1,			1	3.
North Carolina.....	15		2	3, 3,		6	2, 2, 2, 2, 2, 2,			4	3, 3, 3, 2
North Dakota.....	10					6	5, 3, 3, 2, 2, 2,			1	T. ²
Ohio.....	8		2	L, 4,		2	L, 4,	1	4,	1	4.
Oklahoma.....	10		2	5, 1,		2	5, 1,			1	L.
Oregon.....	14		6	L, L, 5, 5, 1, 1,		4	L, 5, 5, 1,	1	5,	1	T. ²
Pennsylvania.....	6									6	L, L, L, L, 3, 2.
Rhode Island.....	12		1,	■	3, 2, T.	4	2, 2, 1, T.				
South Carolina.....	5		1	5,						1	5.
South Dakota.....	7					3	L, 5, 2,			1	5.
Tennessee.....	8		4	5, 5, 2, 1,		3	5, 5, 2,				
Texas.....	12		6,			3	L, 6, 4,	2	L, 4,		
Utah.....	16		5,			6	L, L, 5, 2, 1, 1, ⁴			2	L, 1.
Vermont.....	3										
Virginia.....	7					4	10, 6, 5, 2,			1	6.
Washington.....	10		5, 5			4	5, 5, 2, 2,				
West Virginia.....	8					3	3, 3, 1,			1	5.
Wisconsin.....	12		1,							5	L, 1, 1, 1, 1,
Wyoming.....	22			5	L, L, 4, 4, 3	15	L, L, 3, 3, 3, 3, 3, 2, 2, 2, 2, 2, 1, 1, 1,			2	L, 5.
United States.....	460	183		57		127		20		73	

¹ "Equivalent certificate" good in schools for which originally issued and for time originally issued.² Time not given.³ In cases where certificates are issued for limited periods of time which may vary with individual cases they are classed as temporary (T).⁴ Valid in "rural schools," "rural villages and towns," and "rural and towns up to 1,000 population."⁵ One certificate good to teach in junior high schools.

TABLE 6.—*Certificates issued by county agencies that are valid throughout the county; distribution among the respective classes of schools, and duration of such certificates.*

States.	No.	Any school.		High school.		Elementary.		Primary and kindergarten.		Subjects named.	
		No.	Duration.	No.	Duration.	No.	Duration.	No.	Duration.	No.	Duration.
Arkansas.....	4	3	2, 1, 6 mos....							1	2
California.....	8	1	6.....	1	T.....	2	6, T.....	2	6, T.....	2	6, T.
Colorado.....	3	1	3.....			2	2, 1, 1.....				
Delaware.....	1					1	T.....				
Georgia.....	9			3	3, 2, 1.....	3	3, 2, 1.....	3	3, 2, 1.....		
Idaho.....	3					3	5, 3, 1.....				
Illinois.....	7	1	3.....	1	3.....	3	3, 2, T.....	1	2.....	1	2
Indiana.....	6					6	3, 3, 2, 2, 1, 1.....				
Kansas.....	3					3	3, 1, 2, 1, 1.....				
Kentucky.....	2	2	4, 2.....								
Michigan.....	5	3	4, 3, 3.....					2	1, 1.....		
Mississippi.....	8	5	3, 2, 1, 1, 1.....							3	3, 3, 1.
Missouri.....	5	5	3, 2, 2, 1, T.....								
Nebraska.....	2					2	3, 2.....				
New Jersey.....	5			1	2.....	1	T.....			3	T, T. T.
Ohio.....	8			1	3.....	5	3, 1, 1.....			2	4, 3.
Oklahoma.....	3	3	4, 2, 1.....								
Oregon.....	1	1	T.....								
Pennsylvania.....	2									2	3, 1.
South Carolina.....	4	4	2, 2, 2, 2.....								
Texas.....	1					1	6.....				
Washington.....	2					1	T.....			1	T.
Wisconsin.....	4	4	6, 3, 1, 1.....								
United States.	96	33		7		33		8		15	

¹ Valid in any other county upon application.
² May be validated in other counties in emergency for one year.
³ Valid in any county when transferred by State superintendent.
⁴ Indorsable by other county or district superintendents.
⁵ Registration in any other county permitted.
⁶ Valid in specific grade.

TABLE 7.—Kinds of certificates issued—By whom questions are prepared and examined.

States.	Kinds of certificates issued by—						Kinds of certificates for which questions are prepared by—				Kinds of certificates for which papers are examined by—			
	State board.	State supt. or State dept.	County board.	County super-intendent.	Local authorities.	State normal schools or universities.	State board.	State supt. or State dept.	County board.	County super-intendent.	State board.	State supt. or State dept.	County board.	County super-intendent.
Alabama.....	6						4				4			
Arizona.....	6						5				5			
Arkansas.....	1	4		4		3	1	6			1	3		3
California.....	4		4	4					1				1	
Colorado.....	4			3	¹ 1	1	1	3			1			3
Connecticut.....	8				¹ 2		8				8			
Delaware.....		13		1				2				2		
Florida.....		14					6				6			
Georgia.....	5		9					9						9
Idaho.....	6			3			6				3	3		
Illinois.....		3		7			10				10			
Indiana.....	4	17		6		4	24				12	12		
Iowa.....	10	1					7				7			
Kansas.....	7		3			5	5				2		3	
Kentucky.....	4			2		3	5				5			
Louisiana.....	4						4				4			
Maine.....		9			¹ 1			4				4		
Maryland.....		11					4				4			
Massachusetts.....	5				¹ 1		1				1			
Michigan.....	6	4	5	1		1	1	4		1	2		3	1
Minnesota.....		9				1		5				5		
Mississippi.....	10		8				16				8		8	
Missouri.....		2		5		5		5		1		5		1
Montana.....	14	1					6				6			
Nebraska.....		7	2			4		4				4		
Nevada.....	10						3				3			
New Hampshire.....		10					3				3			
New Jersey.....	20			² 5	² 5		3				3			
New Mexico.....	7						4				4			
New York.....		³ 10			5			9				9		
North Carolina.....	15						12				12			
North Dakota.....	9						4				4			
Ohio.....	3	3	² 6		² 6		2	6			2		² 3	² 3
Oklahoma.....	⁴ 8		⁴ 3			⁵ 3		4				1	3	
Oregon.....		14		1			5				5			
Pennsylvania.....		3		2		3	1		2		1		2	
Rhode Island.....	12						3				3			
South Carolina.....	5	1	4				6				3		3	
South Dakota.....		10					7				7			
Tennessee.....		8					4				4			
Texas.....	2	10	1		¹ 2			5			4		1	
Utah.....	16						2				2			
Vermont.....	4													
Virginia.....	8							3				3		
Washington.....		3		2	2	7		3				3		
West Virginia.....		10						6				6		
Wisconsin.....		12		4			1	2		2	1			4
Wyoming.....	23							7				7		
Total.....	246	189	45	50	25	40	174	87	3	4	150	67	27	24

¹ Local authorities also prepare questions and examine papers.
² Same certificate issued by either county or city board. Listed here as two different certificates. Local authorities also examine papers for certificate which they issue.
³ The certificates are issued by the commissioner of education, who is also president of the State university.
⁴ One certificate issued by State or county board.
⁵ One certificate issued by certain high schools.

TABLE 8.—Duration of certain certificates: A, issued by central agencies and valid throughout the State; B, issued by county agencies and valid in county only.¹

A. ISSUED BY CENTRAL AGENCIES AND VALID THROUGHOUT THE STATE.

States.	Life.	Duration in years.										Total.
		10	9	8	7	6	5	4	3	2	1	
Alabama.....	1					2		1		1		5
Arizona.....	1							4		1		6
Arkansas.....	1					4				1		6
California.....	4											4
Colorado ²	1						4					5
Connecticut ³											⁴ 6	6
Delaware.....									11	2		13
Florida.....	4						5	2	1		1	13
Georgia.....										3		3
Idaho.....	2			2			1				1	6
Illinois.....								3				3
Indiana.....	6			1				2	6	5	5	25
Iowa.....							6		2	2	1	11
Kansas.....	4								5	1	2	12
Kentucky.....	2			1			1			1	1	6
Louisiana.....							2		1		1	4
Maine.....	4						1			3		8
Maryland.....									8	3		11
Massachusetts.....	2								1	2		5
Michigan.....	8							1	2			11
Minnesota.....	1						2			3	3	9
Mississippi.....	1						1		2		3	7
Missouri.....	4						1			2		7
Montana.....	5					4		1	1	1	1	13
Nebraska.....	1								8			9
Nevada.....	2						2	1	1	2		9
New Hampshire.....	5								1		3	9
New Jersey.....	9								1		⁴ 11	21
New Mexico.....	1						2		1	1	2	7
New York.....	5						1		2	1	1	10
North Carolina.....	1								5	9		15
North Dakota.....	1						2		3	4		10
Ohio.....	2							4				6
Oklahoma.....	2						2			2	4	10
Oregon.....	4						5				4	13
Pennsylvania.....	4								1	1		6
Rhode Island.....	2						2		1	3	2	10
South Carolina.....		1					4					5
South Dakota.....	2						2		1	2		7
Tennessee.....							5			2	1	8
Texas.....	5					⁵ 4		⁶ 3				12
Utah.....	6						4			1	5	16
Vermont.....	1						1				1	3
Virginia.....		2				2	2			1		7
Washington.....	2						6			2		10
West Virginia.....	1						4		2		1	8
Wisconsin.....	4						1				7	12
Wyoming.....	5						1	2	6	5	3	22

¹ Certificates such as "valid at discretion of board," emergency, temporary, and those of indefinite term of validity are not included in the table.

² Colorado also issues an "honorary" life certificate for distinguished service.

³ Certificates indefinite in duration—generally one year.

⁴ Approximately in some cases.

⁵ Four to six years in some cases.

TABLE 8.—Duration of certain certificates: A, issued by central agencies and valid throughout the State; B, issued by county agencies and valid in county only—Continued.**B. ISSUED BY COUNTY AGENCIES AND VALID IN COUNTY ONLY.**

States.	Life.	Duration in years.										Total.
		10	9	8	7	6	5	4	3	2	1	
Arkansas.....										2	1	3
California.....						4						4
Colorado.....									1		*1	2
Georgia.....									3	3	3	9
Idaho.....							1		1		1	3
Illinois.....									3	3		6
Indiana.....									2	2	2	6
Kansas.....									1	1	1	3
Kentucky.....								1		1		2
Michigan.....									3	1	5	9
Missouri.....									1	2	1	4
Nebraska.....									1	1		2
New Jersey.....										1		1
Ohio.....								1	3		2	6
Oklahoma.....								1		1	1	3
Pennsylvania.....									1		1	2
South Carolina.....										4		4
Texas.....						1						1
Wisconsin.....						1			1		2	4

* Good for 1½ years.

TABLE 9.—Amount of professional study required for certificates based primarily upon graduation from college in certain States.¹

Amount.	States.
4 full courses.....	Texas.
4 semester hours.....	Idaho.
5 semester hours.....	Arizona.
6 semester hours.....	Rhode Island, West Virginia, North Carolina.
9 semester hours.....	Mississippi.
12 semester hours.....	Washington.
15 semester hours.....	Minnesota.
20 semester hours.....	Wyoming, West Virginia, Iowa.
21 semester hours.....	New Mexico.
30 semester hours.....	North Carolina.
200 recitation hours.....	Pennsylvania.
210 recitation hours.....	New Jersey.
One-half year graduate work with practical teaching of secondary grade.	California.
12 units in pedagogy.....	Do
6 half-year courses.....	Tennessee.
1 year.....	Delaware, Maryland, Utah.
1 year of 5½ hours per week.....	Michigan.
2 "year" courses.....	North Dakota.
One-sixth of entire course.....	Colorado.
Three-twentieths of full course.....	Florida.
One-fourth of all work for 18 months.....	South Dakota.
15 per cent of full course.....	Virginia.
(a) 3 year-hours in 2 educational subjects, or (b) 30 hours in 1 subject in summer school, or (c) normal diploma.	Massachusetts.
9 year-hours and thesis.....	Do.
"Prescribed" courses approved by State authorities.....	Maine, Vermont, New York, Delaware, Georgia, Wisconsin, Montana.

¹ If a State appears more than once in the list, it issues more than one certificate based on college graduation, and the requirements for such certificates are not the same.

TABLE 10.—Certificates based upon graduation from standard colleges, including statement of additional requirements, and terms and conditions of renewal of such certificates—Continued.

States.	Professional course.						No professional course.						
	Amount of professional work.	Certificates valid in—		Professional subjects examined in.	Years of experience required.	Years valid.	Terms and conditions of renewal or of granting higher certificates.	Certificates valid in—		Professional subjects examined in.	Years of experience required.	Years valid.	Terms and conditions of renewal or of granting higher certificates.
		Territory.	Schools.					Territory.	Schools.				
Mississippi.....	90 hours..... {...do.....	State..... do.....	Any..... do.....	.....	Not stated..... do.....	Life..... 3.....	Renewable upon prescribed conditions.	.....	.....	.....	.....	.....	.....
Missouri.....	.....	.....	.....	.....	.....	.....	.....	State.....	Any.....	2	12 months.....	5.....	Life certificate, 40 months' experience and required examination.
Montana.....	.....	.....	.....	.....	.....	.....	.....	{ do..... do..... do.....	do..... do..... High schs.	..... ..... .....	18 months..... 27 months..... None.....	Life..... do..... 3.....	Convertible in- to life after 24 months' experience and 1 year professional work.
Nebraska.....	.....	.....	.....	.....	.....	.....	.....	{ do..... Spec. districts. { State.....	Any..... do..... do.....	..... ..... .....	do..... 3.....	1..... Life.....	Not renewable. Must hold first grade certificate.
Nevada.....	.....	.....	.....	.....	.....	.....	.....	{ do..... High schs.	do..... High schs.	.....	45 or 60 months..... None.....	do..... 4.....	At discretion of State board.
N. Hampshire.....	.....	.....	.....	.....	.....	.....	.....	{ do..... Supervisor	do..... Supervisor	7	6.....	8.....	May be renewed or made permanent.
								{ do..... Secondary	do..... Secondary	6	1..... None.....	Life..... 1.....	Renewable for 1 or 3 years.

	(a) 210 hours, and (b) examination.	State...	Branch specified	6	0	3	Permanent, years' experience.	State...	State-aided schs. (teaching agriculture).	3	Life	
New Jersey...	do	do	Secondary, as teacher, principal, or supervisor.		3	Life		do	do	"Adequate farm experience."	1	Renewable upon recommendation; permanent, 3 years' experience.
	As above and permanent secondary certificate.	do	Supervisor.	2	5 (1 as supervisor).	Not given.	Permanent, 3 years' supervising experience.	do	State-aided vocational schs. (teaching household art).	3	Life	
	do	do	do		3 as supervisor.	Life		do	do	"Satisfactory."	1	Do.
N. Mexico...	21 hours	do	High schs.		None	3 or 5	Permanent certificate, 45 months' experience.	do	State-aided vocational schs. (vocational subject).	3	Life	
New York...	Prescribed course.	do	Any		3	Life		State	Any	4	Life	
	do	do	do		0	3	Renewed by indorsement; permanent certificate after 3 years' experience.	do	do	None	2	Renewable for 1 year; life certificate upon examination with grade of 75 per cent.
	6 hours during one year.	do	High schs.		Not stated	3	Renewable for (a) reading circle work, (b) summer school attendance.					
N. Carolina...	do	do	Any		2, 3, or 5	2	do					
	Required courses.	do	do		1	2	do					
	30 semester hours.	do	Ele. supervisor.		3	2	do					
N. Dakota...	2-year courses	do	Any		2	Life						
		do	do		None	2	5-year certificate, 9 months' experience; life certificate, 5 years' experience.					

* And 4 elementary subjects.

TABLE 10.—Certificates based upon graduation from standard colleges, including statement of additional requirements, and terms and conditions of renewal of such certificates—Continued.

States.	Professional course.						No professional course.						
	Amount of professional work.	Certificates valid in—		Professional subjects examined in.	Years of experience required.	Years valid.	Terms and conditions of renewing or of granting higher certificates.	Certificates valid in—		Professional subjects examined in.	Years of experience required.	Years valid.	Terms and conditions of renewing or of granting higher certificates.
		Territory.	Schools.					Territory.	Schools.				
Ohio.....								{ State..... do..... do.....	High schs. do..... Spec. subjects only. High. schs.		50 months None..... Not stated.	Life..... 4..... Life.....	Renewable.
Oklahoma.....								{ do..... do.....			None.....	1.....	Renewable for 5 years after 6 months' experience.
Oregon.....								do.....	do.....		6 months.	5.....	Life, 30 months' experience.
Pennsylvania.....	{ 200 hours..... do.....	State..... do.....	Branches named. do.....		3..... None.....	Life..... 3.....		do..... do.....	do..... do.....		30 months	Life.....	
R. Island.....	6 semester courses.	do.....	High schs.		do.....	3.....	Life, 3 years' experience. Renewed for 2 periods of 6 years each; after 15 years' experience made permanent.	State...	Supt.....		5 years as superintendent.	5.....	Permanent, 10 years' experience as superintendent.
S. Carolina.....	{ of work for 18 months. do.....	State..... do.....	Any..... do.....		72 months (36 in S. Dak.). None.....	Life..... 2.....		County.....	Any.....		None.....	Indefinite.	
S. Dakota.....							Issued for necessary probationary period for life certificate. Renewable indefinitely.						
Tennessee.....	6 half-year courses.	do.....	High schs.		Not stated	5.....							

Term	4 courses	do.	Any	None	Life or good behavior.	Renewable for similar period when prescribed conditions are met.	State	Any	30 weeks (must show skill in teaching and control of pupils).	Not stated	Renewable for 10 years on prescribed conditions.
Utah	36 semester hours.	do.	do.	do.	Life	10.	None	do.	do.	do.	do.
	do.	do.	do.	do.	5.	do.	None	do.	do.	do.	do.
	1 year.	do.	High sch.	do.	Life	do.	do.	do.	do.	do.	do.
	do.	do.	High sch. or any.	do.	do.	do.	do.	do.	do.	do.	do.
Vermont	Prescribed pedagogical course.	do.	Any	"Some"	Life	do.	do.	do.	do.	do.	do.
Virginia	15 per cent of full course.	do.	Any when endorsed by division supt.	Not stated	10.	do.	Renewable for similar period when prescribed conditions are met.	do.	do.	do.	do.
Washington	12 semester hours (Wash State College).	do.	Any	None	do.	do.	Life, 2 years' experience.	do.	do.	do.	do.
	12 semester hours (Univ. of Wash.).	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
	20 semester hours (5 in school supervision).	do.	do.	2.	do.	do.	Renewable for 5-year periods.	do.	do.	do.	do.
W. Virginia	20 semester hours.	do.	do.	None	do.	do.	do.	do.	do.	do.	do.
Wisconsin	Required course.	do.	do.	2.	Life	do.	do.	do.	do.	do.	do.
	do.	do.	do.	None	do.	do.	do.	do.	do.	do.	do.
	do.	do.	do.	do.	1.	do.	Renewable for similar period.	do.	do.	do.	do.
Wyoming	20 hours.	do.	Administrative.	3.	Life	do.	do.	do.	do.	do.	do.
	16 hours.	do.	High sch. Principal	3.	do.	do.	Renewable indefinitely for 3-year periods.	do.	do.	do.	do.
	10 hours.	do.	grades 1-10 and county supt.	1.	3.	do.	do.	do.	do.	do.	do.

* Graduates from nonstandard colleges receive similar certificates upon prescribed examination in subjects to be taught.

* Separate certificates issued for administration and supervision.

TABLE 11—*Certificates to which graduates and students of various courses in State normal schools are eligible, together with terms and conditions of renewal of such certificates*

States.	Based on 4-year high-school course and 2-year normal-school course or less.										Based on 4-year high-school course and normal course longer than 2 years.				
	Years in—		Certificates valid in—		Years' experience required.	Years valid.	Terms and conditions of renewal or of granting higher certificates.	Years in—		Certificates valid in—		Years' experience required.	Years valid.	Terms and conditions of renewal or of granting higher certificates.	
	Normal School.	High School.	Territory.	Schools.				Normal School.	High School.	Territory.	Schools.				
Alabama.....	2	4	State.....	Any.....	None.....	4.....	Renewable for 4 years after								
Arizona.....	2	4	do.....	do.....	do.....	6.....	after 5 years' experience.								
Arkansas.....	2	4	County.....	Ele and 2 years'.....	3 mos.....	6.....	do.....								
California.....	2	4	do.....	do.....	1.....	6.....	do.....								
Colorado.....	2	4	do.....	do.....	None.....	6 mos.....	Not renewable.								
Connecticut.....	2	4	do.....	do.....	do.....	6 mos.....	do.....								
Delaware.....	2	4	State.....	Any.....	do.....	Life.....	do.....								
Florida.....	12	4	State.....	Elementary.....	3.....	3.....	Renewable for 3 years.								
Georgia.....	2	4	do.....	Principal, elementary or.....	3.....	3.....	do.....								
Idaho.....	2	4	do.....	Elementary.....	None.....	3.....	do.....								
Illinois.....	2	4	do.....	Elementary.....	3.....	3.....	do.....								
Indiana.....	2	4	do.....	Primary.....	None.....	2.....	Renewable according to requirements.								
Iowa.....	2	4	do.....	Elementary.....	None.....	2.....	do.....								
Kansas.....	2	4	do.....	Any.....	do.....	5.....	do.....								
Kentucky.....	2	4	do.....	Primary.....	do.....	4.....	Renewable in accordance with prescribed conditions.								
Louisiana.....	2	4	do.....	Any.....	do.....	3.....	do.....								
Maine.....	2	4	do.....	do.....	18 mos.....	3.....	Renewable.								
Massachusetts.....	2	4	do.....	Subjects named.....	None.....	3.....	do.....								
Michigan.....	2	4	do.....	7-12.....	30 mos.....	5.....	Not stated.								
Minnesota.....	2	4	do.....	do.....	None.....	1.....	8 months' experience, renewable for 2 years.								
Mississippi.....	2	4	County.....	Elementary.....	do.....	1.....	Renewable according to requirements.								

[illegible]

colleges or university.

Life

normal course is given which is credited as equal to that of 4-year high school and 2-year normal.

1997 年 12 月 1 日
 1998 年 1 月 1 日

TABLE 11.—*Certificates to which graduates and students of various courses in State normal schools are eligible, together with terms and conditions of renewal of such certificates*—Continued.

at course longer

Terms and conditions of renewal or of granting higher certificates.

Life certificate, 3 years' experience.

Based on 4-year high-school course

States.	Years in—		Certificates valid in—		1.	2.	3.	4.	State.	Any.	None.	3.	Life certificate, 3 years' experience.
	Normal school.	High school.	Territory.	Schools.									
Kentucky.....	1	4	State	Elementary	None	do	Not stated	do	State	Any	None	3	Life certificate, 3 years' experience.
Louisiana.....	2	4	do	Intermediate	do	do	Renewable for 5 years.	do	do	do	do	do	do
	2	4	do	Elementary	do	do	Renewable for 5 years.	do	do	do	do	do	do
	2	4	do	Specified grades	do	do	Permanent after 5 years.	do	do	do	do	do	do
Maine.....	(¹)	4	do	do	do	Period specified.	unsuccessful	do	do	do	do	do	do
Maryland.....	2	4	do	Elementary	4	do	do	do	do	do	do	do	do
	2	4	do	do	3	do	do	do	do	do	do	do	do
	2	4	do	do	None	do	do	do	do	do	do	do	do
Massachusetts.....	(²)	4	do	do	do	do	do	do	do	do	do	do	do
	2	4	do	Special subject	do	do	do	do	do	do	do	do	do
	2	4	do	Superintendent	2 or 3	do	Life certificate, after meeting specified requirements	do	do	do	do	do	do
Michigan.....	1	4	do	Rural schools	None	do	Not renewable	do	do	do	do	do	do
	2	4	do	Any	do	Life	do	do	do	do	do	do	do
	1	4	do	9 grades	do	3	Renewable for period of 3 years.	do	do	do	do	do	do
Minnesota.....	2	4	do	Subjects named	do	Life	do	do	do	do	do	do	do
	2	4	do	do	do	do	do	do	do	do	do	do	do
	1	4	do	do	8 mos	5	Renewable upon completion of required work.	do	do	do	do	do	do
Mississippi.....	2	4	do	Elementary	2	Life	do	do	do	do	do	do	do
	2	4	do	Any	None	Life	do	do	do	do	do	do	do
	1	4	do	Elementary	do	2	Renewable	do	do	do	do	do	do
Missouri.....	2	4	do	do	do	Life	do	do	do	do	do	do	do
	2	4	do	High schools	do	2	Renewable	do	do	do	do	do	do
	3	4	do	Elementary	do	Life	do	do	do	do	do	do	do
New York.....	2	4	do	High schools	do	Life	do	do	do	do	do	do	do
	2	4	do	do	do	do	do	do	do	do	do	do	do
	3	4	do	do	do	do	do	do	do	do	do	do	do

if course longer

	No.	Sex	Grade	Subject	Term	Length of service	Renewable	Remarks
Montana.....	2	4	do.	Any	27 mos.	do.	Renewable for 6 years on completion of 27 months' experience and reading circle work.	
	2	4	do.	do.	18 mos.	do.		
	2	4	do.	do.	None.	6.		
Nebraska.....	2	4	Districts indicated.	High schools	do.	3.	Life, 24 months' experience	
	2	4	State.	Rural	do.	3.		
	(1)	4	Districts indicated.	Elementary	do.	3.	Normal work and 24 months' experience.	
Nevada.....	2	4	State.	do.	45 mos.	Life.		
	2	4	do.	do.	None.	5.	Life, 45 months' experience.	
	2	4	do.	do.	16 mos.	3.	Renewable.	
N. Hampshire..	1	4	do.	do.	None.	2.	Not renewable.	
	2	4	do.	do.	1 and 2.	Life.	Renewable for 1 or 2 years upon recommendation of superintendent.	
	(1)	4	do.	do.	None.	1.		
New Jersey....	2	4	do.	Junior high schools.	1.	Life.		
	(1) (5)	4	do.	Elementary	None.	1.	Renewable once for 2 years	
New Mexico...	2	4	do.	Agriculture	do.	1.	Renewable.	
	2	4	do.	do.	3.	Life.		
	2	4	do.	Any	45 mos. (9 in State).	do.		
	2	4	do.	do.	27 mos. (9 in State).	5.	Life, after 45 months' experience.	
	2	4	do.	High schools	None.	3 or 5.	May be extended for 2 years and made permanent, after 45 months' experience.	

PLATE 1

nal course at college or university,
or university.

it for professional work and must submit thesis above grammar school.

\$5 each.

TABLE 11.—*Certificates to which graduates and students of various courses, in State normal schools are eligible, together with terms and conditions of renewal of such certificates—Continued.*

State.	Based on 4-year high-school course and 2-year normal-school course or less.									
	Years in—		Certificate valid in—		Terms and conditions of renewal or of granting higher certificates.	Years' experience required.	Years valid.	Based on 4-year high-school course and normal course longer than 2 years.		Terms and conditions of renewal or of granting higher certificates.
	Normal school.	High school.	Territory.	Schools.				Years in—	Certificate valid in—	
New York.....	(c) 4	4	District.	Elementary.....	Renewable according to specified requirements.	None.....	2.....	4	High school.	Renewable by State superintendent.
	1	4	do.	do.	do.	3.....	10.....	4	do.	do.
	1	4	do.	do.	do.	None.....	3.....	4	do.	do.
	2	4	State.	do.	Renewable for reading circle work and summer school attendance.	do.	Life.	4	do.	do.
	2	4	do.	do.	Not stated.	do.	2.....	4	do.	do.
N. Carolina.....	2	4	do.	Home economics	Renewable for reading circle work and summer school attendance.	do.	3.....	4	do.	do.
	(u) 4	4	do.	Elementary.....	do.	do.	2.....	4	do.	do.
	(s) 3	4	State.	Elementary.....	do.	None.....	2.....	4	do.	do.
North Dakota.....	(b) 1	4	do.	do.	(a) Life, 9 months' experience.	do.	2.....	4	do.	do.
	(c) 1	4	do.	do.	(b) Renewable for 5 years.	do.	2.....	4	do.	do.
	(c) 1	4	do.	do.	(c) Renewable for 5 years.	do.	Life or 3.....	4	do.	do.
	1 or 2	4	do.	do.	do.	100 or 50 mos.	Life.....	4	do.	do.
	2	4	do.	do.	Renewable by State superintendent.	None.....	4.....	4	do.	do.
Ohio.....	2	4	do.	Special subj.	State superintendent's certificate.	do.	4.....	4	do.	do.
	2	4	do.	do.	State superintendent's certificate.	do.	4.....	4	do.	do.
	2	4	do.	Primary and kindergarten.	State superintendent's certificate.	do.	4.....	4	do.	do.
Oklahoma 16.....	1	4	County.	Elementary.....	1 or 3 years of board of	do.	1.....	4	do.	do.
	2	4	do.	do.	do.	do.	1 or 3.....	4	do.	do.
	2	4	do.	do.	do.	do.	Life.....	4	do.	do.
	1	4	do.	do.	do.	do.	2.....	4	do.	do.
	1	4	do.	do.	do.	do.	Not stated.	4	do.	do.

TABLE 11.—(Certificates to which graduates and students of various courses, in State normal schools are eligible, together with terms and conditions of renewal of such certificates—Continued.

States.	Based on 4-year high-school course and 2-year normal-school course or less.					Based on 4-year high-school course and normal course longer than 2 years.				
	Years in—	Certificates valid in—		Years' experience required.	Terms and conditions of renewal or of granting higher certificates.	Years valid.	Certificates valid in—		Years' experience required.	Terms and conditions of renewal or of granting higher certificates.
		Territory.	Schools.				Territory.	Schools.		
Washington.....	4	State....	Any.....	45 mos. (27 in State).	Life.....	Life.....	4	4	State....	Any.....
	2	do.....	Elementary.....	None.....	5.....	5.....	2	4	do.....	Varies.....
	1	do.....	do.....	9 mos.....	5.....	Renewable twice for professional school attendance.				
	1	do.....	do.....	None.....	2.....	Not stated.				
	4	do.....	do.....	do.....	2.....	Renewable twice for professional school attendance.				
West Virginia..	(¹¹)	County	Specified.	do.....	Temp'y.....	Renewable as specified.				
	2	State ..	Ele. and high school	do.....	5.....	do.....				
	2	do.....	Any.....	2.....	5.....	Renewable for 5 years.				
Wisconsin	2	State.....	do.....	2.....	Life.....	do.....				
	2	do.....	do.....	None.....	1.....	Renewable for 1 year.				
	2	do.....	Branches specified.	do.....	1.....	do.....				
	2	do.....	Any.....	do.....	1.....	do.....				

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States.	Professional course.					No professional course.				
	Certificates valid in—		Exam-ination sub-jects.	Years' ex-perience required.	Terms and condi-tions of renewal or of granting higher certifi-cates.	Certificates valid in—		Exam-ination sub-jects.	Years' ex-perience required.	Terms and condi-tions of renewal or of granting higher certifi-cates.
	Terri-tory.	Schools.				Terri-tory.	Schools.			
Arkansas.....	Amount of pro-fessional work.									
Georgia.....	Prescribed	State.....	Special sub-jects.	None.....	Renewable.	State.....	Any.....	Elementary	None or 12 months.	Based on compli-ance with regu-lations of State board.
Idaho.....	6 weeks	County	Elementary.	4 1 7 months.	Renewable. Issued only to holders of lower grade certifi-cates.	County	County	Elementary 11 3 3 7 months.	3	According to specified re-quirements.
Illinois.....	4-year normal training high school.	State.....	Any.....	None.....	Renewable. Issued only to holders of lower grade certifi-cates.	County	County	Elementary 10 1 2 None.....	2	Do.
Iowa.....	Grad. from train-ing course.	State.....	Elementary.	None.....	Renewable. Per-mnent after 3 years' experi-ence if attend normal or col-lege for 1 year.	State.....	State.....	Elementary.....	4	Renewable after 3 years' experi-ence if attend normal or col-lege for 1 year.
Kansas.....	Normal course.	do.....	do.....	do.....	Not renewable. Issued to holders of certain certificates only.	County	County	do.....	7 months.	Not renewable.
Maine.....	Required.....	State.....	Grades spec-ified.	5 6	Renewable upon recommendation of county supt. after 12 months experi-ence and comple-tion of required professional course.	State.....	Grades spec-ified.	Grades spec-ified.	(3) 2	Renewable after successful ex-perience.
Minnesota.....	Must have grade of 75 per cent in subjects of high-sch. tr. dept.	State.....	Rural.....	None.....	Renewable upon recommendation of county supt. after 12 months experi-ence and comple-tion of required professional course.	State.....	State.....	State.....		

	Teachers' training course.	County.	Any				2	Converted into first-grade certificate after 32 weeks' experience and reading-circle work.	County	Any	14 6	8 months.	3	Renewable indefinitely.
Missouri	4-year high-school course in normal. Required	State	Ele. and rural.	do.	2	Renewable.	2	Renewable.	State	do.	4	2 12 months.	5	Renewable according to requirements.
Montana	Prescribed	State	Elementary	do.	2	12 months' experience and reading-circle work.	2	Merged into professional State certificate good for life.	do.	do.	2	40 months.	Life	
Nebraska	Prescribed	do.	Rural	do.	3	Renewable.	3	Renewable.	do.	do.	2	40 months.	Life	
N. Hampshire	Required	State	Elementary	do.	1	Life.	1	Life.	State	Elementary	4	4	Life.	
New Jersey	Required	do.	do.	2	2	Life.	2	Life.	State	Any (subjects specified).	11	1 3	1	
New York	Required	State	Elementary	do.	2	Life.	2	Life.	District	Elementary	3	3	10	Renewals for simple periods.
N. Dakota	4-year normal course above 8th grade. Required	State	Elementary	do.	2	Life.	2	Life.	State	Elementary	4	4	Life.	
	Required	do.	do.	do.	3	Life.	3	Life.	State	Elementary	11	1 3	1	
	Required	All counties.	do.	do.	2	Life.	2	Life.	State	Elementary	11	1 3	1	
Ohio	36 weeks' Required	County	Highschools	do.	1 or 3	Not renewable.	1 or 3	Not renewable.	County	Highschools	do.	do.	do.	
	36 weeks' Required	do.	Special subjects.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	
Oklahoma	Required	State	Any	do.	1	Not renewable.	1	Not renewable.	State	Any	do.	do.	do.	
Oregon	Completion of teachers' training course.	State	Any	do.	1	Not renewable.	1	Not renewable.	State	Any	do.	do.	do.	
	(11 class hour daily for 2 years.) Required	State	Subjects named.	do.	1	Renewable.	1	Renewable.	State	Subjects named.	do.	do.	do.	
S. Dakota	Required	County	Elementary	do.	3	Not renewable.	3	Not renewable.	County	Elementary	do.	do.	do.	

¹ All county certificates require high-school graduation unless teacher has a required amount of experience.

² 1 of one year of college work.

³ of two years of college work.

⁴ years' experience in addition to high-school graduation.

⁵ quired.

TABLE 12.—*Certificates based upon graduation from secondary schools, together with terms and conditions of such certificates—Continued.*

States.	Professional courses.						No professional course.						
	Amount of professional work	Certificates valid in—		Examination subjects.	Years' experience required.	Years valid.	Terms and conditions of renewing or of granting higher certificates.	Certificates valid in—		Examination subjects	Years' experience required.	Years valid.	Terms and conditions of renewing or of granting higher certificates.
		Territory.	Schools.					Territory.	Schools.				
Tennessee.....	4-year normal high-school course.	State....	Elementary.	Elementary. Higher. Professional.	None.....	5....	Renewable indefinitely. ¹⁰	County.	Elementary 11 7	Elementary. Higher. Professional.	7 months..	5....	According to specified requirements. Do.
Utah.....								State....	Elementary outside of cities of 1st and 2nd class.	(11)	2 years in Utah.	2....	
Vermont.....	Required	State....	Any.....		None.....	1....	Renewable twice....						
Virginia.....	4-year normal high school.	State....	Elementary.		7 months..	5....	Renewable for 5 years.						
Wisconsin.....	Teachers' training course.	County..	Any.....		8 months..	3 or 5							
Wyoming.....	1 year.....	State....	Rural.....		None.....	2....	2-year periods.	State....	Special subjects.	(11) 2	2....	5....	Renewable for 3-year periods.

¹⁰ Also included in table based on normal-school graduation.¹¹ Examination given but subject not stated.

TABLE 13.—Scholarship and experience requirements for supervisors' certificates.

States.	Duration of certificate in years.	Scholarship.				Examination subjects.		Years of experience.	Conditions and terms of renewal.
		Years of study.	Years in college.	Years in normal school.	Years in high school.	Traditional.	Professional.		
Connecticut.....	Indefinite.....	1	4	4	4	9	5	2..... 5..... 6..... 3..... 3..... 2..... 1..... 3.....	Renewable. Must also present paper on certain assigned subjects May also be granted without examination to persons who have supervised not less years. Renewable. Here of college graduation may have 2 years of college
Delaware.....	3..... 3..... 3..... 3 1..... 3 1.....	1 1 1 4 2	4 4 4 4 4	4 4 4 4 4	4 4 4 4 4	..... ..... ..... ..... .....	..... ..... ..... ..... .....	None.....	college or university in professional work connected Validity determined by grade obtained. Renew- at expiration for life. higher institution, one year of which shall be profes- sional. have 2 years of college and 2 of normal training Re- newable. Also issued on examination. Renewable. Must hold preliminary superintendent's certificate, have completed a semester's course in educational theory, and present thesis on specified topic.
Georgia.....	3, 2, or 1.....	2	.....	.....	.....	.....	6 3	3..... 2..... 2.....	
Illinois.....	4..... 3.....	.....	2	4	4	.....	1 3	..... .....
Maryland.....	3..... 3..... 3 1..... 3 1..... Life.....	1 1 1 1	4 4 4 4	4 4 4 4	4 4 4 4	..... ..... ..... .....	..... ..... ..... .....	2..... 4..... 2..... 3..... 3.....	
Massachusetts.....	3.....	.....	.....	.....	.....	.....	7	2..... 3..... 3 continuous years subsequent to se- curing prelimi- nary certificate. (2) (3).....	
Nebraska.....	3.....	.....	.....	.....	.....	.....	1	1.....	.....
New Hampshire	Life..... 3.....	4	4	4	4	.....	7	3 years as superin- tendent. 5.....	.....

Principal's certificate.

Renewed or made permanent.

TABLE 13.—Scholarship and experience requirements for supervisors' certificates—Continued.

States.	Duration of certificate in years.	Scholarship.				Examination subjects.				Years of experience.	Conditions and terms of renewal.
		Years of graduate study.	Years in college.	Years in normal school.	Years in high school.	Traditional.	New elementary.	Higher.	Professional.		
New Jersey.....	Life.....	.....	.....	.....	.....	.....	.....	.....	.....	3 as supervisor.	elementary or secondary certificate, and professional certificate Made permanent after 3 years' experience.
	Not given.....	.....	.....	.....	.....	.....	.....	.....	2	5, 1 as supervisor.	.....
North Carolina.....	1.....	.....	.....	.....	.....	.....	.....	.....	.....	Adequate.....	.....
	2.....	.....	.....	.....	4	10	1	.....	1	3.....	.....
	3 ¹.....	.....	4	.....	4	.....	.....	.....	.....	1.....	.....
	2.....	.....	4	.....	4	.....	.....	.....	.....	.....	.....
	Life.....	.....	4	.....	4	.....	.....	.....	.....	None.....	.....
	5.....	.....	4	.....	4	.....	.....	.....	.....	2, 3, or 5.....	.....
Rhode Island.....	Life.....	.....	.....	.....	.....	.....	.....	.....	.....	10 as superintendent.	.....
	5.....	.....	.....	.....	.....	.....	.....	.....	.....	5 as superintendent.	.....
	5.....	.....	.....	.....	.....	.....	.....	.....	.....	10 as superintendent.	.....
Utah.....	Life administration.	.....	4	.....	4	.....	.....	.....	.....	5 as superintendent.	.....
	Life supervision.	.....	4	.....	4	.....	.....	.....	.....	10 as superintendent.	.....
	5 supervision.	.....	2	.....	4	.....	.....	.....	.....	5 as superintendent.	.....
West Virginia.....	5.....	.....	.....	2	.....	.....	1	5	4	.....	.....
	Life.....	.....	4	.....	4	.....	.....	.....	.....	2.....	.....
Wyoming.....	Life.....	.....	4	.....	4	.....	.....	.....	.....	3.....	.....
	3.....	.....	3	.....	.....	.....	.....	.....	.....	2.....	.....
Principal's certificate.	Life.....	.....	2	.....	.....	.....	.....	.....	.....	1.....	.....
	3.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

1 Principal's certificate.

TABLE 14.—Scholarship and experience requirements for special certificates.

States.	Duration of certificate, in years.	Scholarship.				Years of experience.	Additional information.
		Years of special training.	Years in college.	Years in normal school.	Years in high school.		
Alabama ¹	4.....				3.....	0.....	Renewable. Must have satisfactory credentials of examination in subject applicant desires to teach. Credentials must be approved by State board of education.
Arizona.....	2.....				4.....	1.....	after 5 years' experience.
Arkansas.....	6.....	2.....					
California.....							
Colorado ²							
Connecticut.....	3.....		4.....			3 or more.....	
Delaware.....	5.....					0.....	
Florida.....							
Georgia.....	3.....				4.....	0.....	
Idaho.....	8.....	2.....			4.....	0.....	
Illinois.....	2.....	2.....			4.....	0.....	Renewable. Renewable for 2-year periods. In lieu of special training, certificate may be obtained by examination. Life, 2 years' experience.
Indiana.....	4.....	2.....				0.....	
	3.....	3.....				0.....	
	2.....	2.....				0.....	
	1.....	1.....				0.....	
Iowa.....	3.....					0.....	
Kansas.....	3.....	2.....			4.....	0.....	Life, 5 years' experience. State normal schools.
Kentucky ³	Life.....					0.....	
Louisiana.....	Not specified.....	4.....	2.....			0.....	
Maine.....	2.....					0.....	
						3.....	
Maryland.....	3.....		4.....		4.....	4.....	
	3.....		2.....		4.....	0.....	
Massachusetts.....	2.....					0.....	
Michigan.....	Life.....	2.....				0.....	
Minnesota.....	1.....					0.....	
Mississippi ⁴							which issued.

¹ Certificates given under provisions prescribed by State board.² Issues no special certificate.³ No regular certificate. Teachers satisfy local boards of ability to teach special subjects.⁴ The State board of examiners, on approval of State superintendent of education, is hereby authorized to provide examinations and make regulations for licensing teachers of music, manual training, domestic science, and of such other special subjects as may be deemed necessary.

TABLE 14.—*Scholarship and experience requirements for special certificates—Continued.*

States.	Duration of certificate, in years.	Scholarship.				Years of experience.	Additional information.
		Years of special training.	Years in college.	Years in normal school.	Years in high school.		
Missouri.....	Life.....	.....	.....	.....	4	40 months.....	school attendance. examination. Renewable.
Montana.....	5.....	.....	.....	.....	4	12 months.....	
Nebraska.....	3.....	1	.....	.....	1	0.....	may be converted into life certificate upon
Nevada.....	2.....	.....	.....	.....	.....	0.....	and graduate, may be made permanent.
New Jersey.....	1.....	2	.....	.....	4	Satisfactory.....	examination in some special subjects.
New Mexico.....	1.....	2	.....	.....	4	0.....	individual merits
New York.....	3.....	2	.....	.....	4	0.....	
North Carolina.....	2.....	2	.....	.....	4	0.....	
North Dakota.....	Prescribed.....	2	.....	.....	4	0.....	
Ohio.....	3.....	1	.....	.....	4	0.....	
.....	4.....	2	.....	.....	4	0.....	
.....	4.....	.....	.....	.....	4	0.....	
Oklahoma.....	Life.....	.....	.....	.....	.....	0.....	
Oregon.....	Not stated.....	.....	.....	.....	.....	0.....	Persistence not stated. Must show evidence of ability satisfactory to State supt.
Pennsylvania.....	Term of years and life.....	.....	.....	.....	.....	0.....	Graduation from an approved school, completion of subjects, and other conditions as prescribed by State supt.
Rhode Island.....	2.....	.....	.....	.....	.....	Satisfactory.....	to teach.
South Carolina.....	Not specified.....	.....	.....	.....	.....	0.....	examination.
South Dakota.....	5.....	.....	.....	.....	.....	0.....	
Tennessee.....	.....	.....	.....	.....	.....	.....
Texas.....	.....	.....	.....	.....	.....	0.....	
Utah.....	1.....	.....	.....	.....	.....	0.....	
Vermont.....	1.....	1	.....	.....	.....	0.....	
.....	5.....	.....	.....	.....	.....	30 weeks.....	
Virginia.....	6.....	.....	.....	.....	.....	0.....	
Washington.....	(*).....	.....	.....	.....	.....	0.....	
West Virginia.....	5.....	.....	.....	.....	.....	0.....	
Wisconsin.....	1.....	2	.....	.....	.....	0.....	
.....	3.....	.....	.....	.....	4	2.....	
Wyoming.....	5.....	.....	.....	.....	4	2.....	

* Also have special industrial certificate. Applicant must show he has ability to do work of his trade. * As long as holder continues to teach in city or county where issued.

TABLE 15.—Scholarship and experience requirements for primary and kindergarten certificates—Continued.

State.	Duration of certificate.	Years of special training.	Years in college.	Years in normal school.	Years in high school.	Examination subjects.				Years of experience.	Conditions and terms of renewal. Additional information.
						Traditional.	New elementary.	Higher.	Professional.		
New Jersey (S. and K.).	1.....	.....	.....	.....	4	.....	.....	.....	.....	0.....	Must pass examination in kindergarten subjects. Renewable for 2 years. After 3 years' experience, for life.
New York (S. and K.).	3.....	2	.....	.....	4	.....	.....	.....	.....	0.....	Renewable for 5-year periods after 2 years' experience. Examination also given.
North Carolina (K.).	2.....	2	.....	.....	4	.....	.....	.....	.....	0.....	of teaching satisfactory.
North Dakota (S., K., and P.).	2.....	2	.....	.....	4	.....	.....	.....	.....	None or 3.....	individual
Ohio (K. and P.).	4.....	2	.....	.....	4	.....	.....	.....	.....	0.....	.....
South Dakota (S. and K.).	4.....	2	.....	.....	4	.....	.....	.....	.....	0.....	.....
Oregon (P.).	5.....	.....	.....	.....	.....	3	.....	.....	6	12 months.	.....
Pennsylvania (S. and K.).	Term of years and of life.	.....	.....	.....	.....	.....	.....	.....	.....	0.....	.....
South Carolina (K.).	Not stated.	.....	.....	.....	.....	.....	.....	.....	.....	Not stated.	Issued on evidence of fitness, by examination or otherwise. Renewable.
South Dakota (P. and K.).	5.....	.....	.....	.....	.....	8	1	.....	3	0.....	.....
Texas (P. and K.).	4.....	.....	.....	.....	.....	.....	.....	.....	.....	0.....	.....
(P. in State).....	Life.....	.....	.....	.....	.....	11	1	4	2	0.....	.....
(K. in State).....	do.....	.....	.....	.....	.....	.....	.....	.....	.....	3 in State.	.....
(K. in State).....	4.....	2	.....	.....	4	.....	.....	.....	.....	0.....	.....
(P. in City).....	Life.....	.....	.....	.....	.....	.....	.....	.....	.....	8 in State.	.....
West Virginia (P., S., and K.).	5.....	.....	.....	.....	.....	.....	.....	.....	.....	None or 2.....	State certificate. Completion of approved courses of examination subjects for which issued.
Wisconsin (K. and P.).	1.....	.....	.....	2	.....	.....	.....	.....	.....	0.....	.....
Wyoming (S., P., and K.).	5.....	.....	.....	.....	4	.....	.....	.....	.....	2	.....

State certificate.
Completion of approved courses of examination subjects for which issued.
periods. Must pass examination.

TABLE 16.—Subjects in which examination is required for first-grade county certificates, not including the traditional elementary subjects.

[The cross (X) indicates that examination is given in the subject; X² indicates that examination is given in two phases of the subject; O indicates that the subject is optional, and its exponent indicates the number of subjects to be chosen from the optional group.]

States.	Higher (secondary) subjects.												New elementary subjects.					Professional subjects.										(Special subject.)	
	English.	General science.	Algebra.	Physics.	Civil government.	Literature.	Geometry.	Physical geography.	History (not U. S.).	Botany.	Biology.	Zoology.	Chemistry.	Drawing.	Music.	Agriculture.	Manual training.	Domestic science.	Principles of teaching.	Theory and practice.	Methods.	School law.	Pedagogy.	Theory and art.	Psychology.	School management.	Didactics.		School libraries.
Arkansas.....	X ²		X	X		X	X		X					X		X					X						X		
California.....		X	X	X																		X							
Colorado.....		X	X	X																		X							
Georgia.....																													
Idaho.....	X ²		X	X		X		X	X	O ²	O ²	O ²	O ²						X		X						X		
Illinois.....			X	X																									
Indiana ¹	X	X		X		X			X										X										
Kansas.....																													
Kentucky.....				X																									
Michigan.....			X	X																									
Mississippi.....	X		X	X					X																				
Missouri.....			X	X				X	X	X ²	O ¹																		
Nebraska.....			X	X					X																				
Nevada.....			X	X					X																				
Ohio ⁴			X	X					X																				
Oklahoma.....			X	X					X																				
Pennsylvania.....			X	X					X																				
South Carolina.....			X	X					X																				
South Dakota.....			X	X					X																				
Wisconsin.....	X	X	X	X			X		X																				

¹ Manual of elementary course of study for Idaho.

² Agriculture, domestic science, industrial arts, music, and drawing are optional subjects in Indiana.

³ State course of study.

⁴ Examination in "all the common branches, including agriculture and practical test in teaching."

⁵ Manual of Wisconsin elementary school course.

TABLE 17.—Scholarship and experience requirements for highest certificates based upon examination

States.	Certificate.	Duration of certificate.	Examination subjects.				Years of experience required.	Supplementary information.
			Traditional elementary.	New elementary.	Higher.	Professional.		
Alabama.....	Life.....	Life.....	10	1	4	5	5 years under first-grade certificate.	and submit written history
Arizona.....	Life.....	Life.....				3	15 years.....	
Arkansas.....	State.....	Life.....			7		20 months.....	
California.....	State diploma.....	Life.....	10		8	2	40 months, 21 in California.	
Colorado.....	First-grade county.....	3 years.....	8		2	2	12 months.....	Renewable at option of local superintendent. If to teach in high school, additional examination preparation and be 20 years
Connecticut.....	Elementary.....	1 year.....	9	2	2		0.....	preparation.
Delaware.....	Elementary-second grade.	2 years.....	10	4		1	0.....	
Florida.....	State.....	3 years.....			9	1	24 months.....	Must have grade of 90 per cent. Renewable.
Georgia.....	General elementary—Grade I.	3 years.....	13	1		1	0.....	Must pass such examination as the board may direct. Renewable.
Idaho.....	State-life.....	Life.....			6	1	5.....	Applicant must hold professional license. Renewable for life.
Illinois.....	First-grade elementary.	3 years.....	7				6 months.....	
Indiana.....	Life license.....	Life.....			8		48 months.....	
Iowa.....	First-grade State, upon examination.	5 years.....	8	2	10	5	2 years.....	
Kansas.....	Three-year certificate.	3 years.....					2.....	Prescribed examination Renewable for life.
Kentucky.....		Life.....	7		6	3	2.....	Must have average of 90 per cent and be 24 years of age.
Louisiana.....		5 years.....	8	1	2		0.....	
Maine.....	Professional elementary.	Life.....				5	5.....	professional elementary certificate, and have pursued some preparation to person showing equivalent training.
Maryland.....	Elementary school teacher's certificate of the first grade.	3 years.....					0.....	Graduation from 4-year high school or equivalent and 2-year normal, or issued on examination to person showing equivalent training.
Massachusetts.....	Local certificates.	(1) Life.....						Examination by local board. Such qualifications as board may require.
Michigan.....	Life.....	Life.....	7		12	1	2.....	Must have one year of professional training.
Minnesota.....	First grade.	6 years.....	11		4		3 months.....	
Mississippi.....	Teacher's professional.	Life.....			8	1	0.....	

TABLE 15.—Scholarship and experience requirements for primary and kindergarten certificates—Continued.

State.	Duration of certificate.	Years of special training.	Years in college.	Years in normal school.	Years in high school.	Examination subjects.				Years of experience.	Conditions and terms of renewal. Additional information.
						Traditional.	New elementary.	Higher.	Professional.		
New Jersey (S. and K.).	1.....				4					0.....	Must pass examination in kindergarten subjects. Renewable for 2 years. After 3 years' experience, for life.
New York (S. and K.).	3.....	2			4					0.....	Renewable for 5-year periods after 2 years' experience. Examination also given.
North Carolina (K.).	2.....	2			4					0.....	of which 3 hours must be in methods of teaching may take examination or show satisfactory
North Dakota (S., K., and P.).	2.....	2			4					None or 3.....	and. Each applicant considered on individual
Ohio (K. and P.).	4.....	2			4					0.....	certificate after 24 months' experience.
Oregon (P.).	4.....	2			4	3			6	0.....	specified subject. Renewable for 36 weeks' at-
Pennsylvania (S. and K.).	Term of years and of life.									12 months.....	higher learning or upon 32 months' successful
South Carolina (K.).	Not stated.....					3				0.....	school under such conditions as may be imposed.
South Dakota (P. and K.).	5.....									0.....	Issued on evidence of fitness, by examination or otherwise.
Texas (P. and K.).	4.....									Not stated.....	Renewable.
(P. in State).....	Life.....									0.....	Renewable on year's attendance at summer school, obtained on graduation from college, university, or normal.
(K. in State).....	do.....									0.....	given only in subjects not ex-
(K. in State).....	4.....	3								3 in State.....	second-grade certificate, exami-
(P. in City).....	Life.....									3 in State.....	
West Virginia (P., S., and K.).	6.....									None or 3.....	Requirements as for permanent State certificate.
Wisconsin (K. and P.).	1.....			2						0.....	Renewable for 5-year periods. Completion of approved courses of examina-
Wyoming (S., P., and K.).	6.....				4					2.....	tion, which varies according to subjects for which issued.
										0.....	Renewable for 1 year.
										2.....	Renewed indefinitely for 3-year periods. Must pass examination.

TABLE 19.—*Suspension and revocation of certificates.*

Names of kinds of certificates.	Officer empowered to suspend or revoke.	Grounds upon which suspension or revocation may be made.	Process.
Alabama: Any certificate.....	Superintendent of education.....	Immoral conduct or unbecoming or indecent behavior.	
Arizona: Any certificate.....	State board of education.....	Unprofessional conduct or evident unfitness to teach.	
Arkansas: Any certificate.....	County examiners.....	Immoral character or evident unfitness for teaching	30 days. A fair hearing to the teacher in the school district in which
California: Any certificate.....	State board of education or county boards of education.	Unprofessional conduct, unfitness to teach, or persistent defiance of the laws regulating the duties of teachers.	A
Colorado: State certificates..... County certificates.....	State superintendent..... County superintendent.....	Intemperance, immorality..... do.....	Holder of a certificate has right to appeal to the State superintendent of schools within 30 days.
Connecticut: Any certificate.....	Examining committee.....	Incompetency to teach or to manage a school or to conform to requirements.	May be discharged by district or by committee in absence of action by the district. If improperly discharged by committee, district may compel reinstatement.
Delaware: Any certificate.....	State board of education.....	Negligence, cruelty, incompetence, or immorality.	
Florida: Any certificate.....	County or State superintendent.....	Incompetency and gross immorality.....	
Georgia: County licenses.....	County school commissioner.....	Immorality, incompetency, neglect of duty.....	The teacher has a right to appeal to the county board of education.
Idaho: State or State life certificate.....	State board of education.....	Any cause which would have prevented the issuance of such certificate if known at the time of issue.	Applicant has 30 days in which to appear before State board and show cause why certificate should not be revoked.
County certificate.....	County superintendent.....	Neglect of duty, incompetency, or immorality.....	30 days is given to appear and make appeal before State board of education.
Illinois: Any certificate.....	County or State superintendent.....	Immorality, incompetency, unprofessional conduct, or other just causes.	Applicant has the right of appeal if taken within 10 days.
Indiana: Any certificate.....	State or county superintendent.....	Incompetence, immorality, cruelty, or neglect of the business of the school.	

		C	
Iowa:	County superintendent.....	Incompetency, immorality, intemperance, cruelty, or general neglect of the business of the school, or for any cause which would have authorized or required a refusal to grant the same.	
Any certificate.....			
Kansas:	Boards issuing.....	Immorality, gross neglect of duty, annulling of contracts, or any cause which would have justified withholding the certificate when it was granted.	
All certificates.....			
Kentucky:	County superintendents.....	Incompetency, immorality, inefficiency, or other unworthiness to be a teacher.	
Any certificate.....			
Louisiana:	State board of education.....	Incompetence, unworthy or immoral conduct....	
Any certificate.....			
Maine:	State superintendent of schools.....	"Certain causes"	
Any certificate.....			
Maryland:	State superintendent.....	Immorality, dishonesty, intemperance, insubordination, incompetency, or neglect of duty.	County board may suspend certificates and may recommend to State superintendent the revocation of them. State superintendent must give opportunity to accused to defend himself against the charges made.
Any certificate.....			
Massachusetts:	Board of education.....	Incompetent or otherwise manifestly unfitted to serve as instructor of schools.	Board of education must be convinced after investigation.
Any certificate.....			
Michigan:	State board of education.....	For causes.....	A hearing must be given the accused.
Any certificate.....			
Minnesota:	County and State superintendent.....	to follow contract, or communicable	May be suspended on own authority or on complaint of school boards.
Any certificate.....			
Mississippi:	County superintendent.....	Intemperance, immoral conduct, brutal treatment of pupils.	Accused must be given trial.
Any certificate.....			
Missouri:	County superintendents.....	Immorality, incompetence, neglect of duty, or annulling contract without the consent of the board.	
Any certificate.....			

TABLE 19—*Suspension and revocation of certificates—Continued.*

Names or kinds of certificates.	Officer empowered to suspend or revoke.	Grounds upon which suspension or revocation may be made.	Process.
Montana: Any certificate.....	State superintendent or county superintendent for 6 months.		
Nebraska: Any certificate.....	By authority granting same.....	1 their intem- crime	
Nevada: Any certificate.....	State board of education.....	It un- ice of or the or of gov.	
New Hampshire: Any certificate.....	School board.....	Immoral or incompetent or who shall not con- form to regulations prescribed.	N Expiration of period without having pre- such dismissal, and ll be so dismissed ed a full and fair e action of contract of the provisions to which such teacher
New Jersey: Any certificate.....	State board of examiners.....	For cause.....	
New Mexico: Any certificate.....	State board of education.....	Incompetence, immorality, or any cause for which certificate might have been withheld if known at the time of its issue.	The accused must have a full and fair hearing and may have the services of counsel.
New York: Any certificate.....	Commissioner of education..	Any sufficient cause.....	Commissioner of education may reconsider and reverse his action.
Do.....	School commissioner.....	Immorality.....	T

State	Authority	Grounds for Denial	Procedure	Appeal
North Carolina:	County board of education	Immorality	County superintendent with concurrence of a majority of the school committee	Charges must be filed in writing with county superintendent, and after hearing shall have been had before committee of the district in which such teacher is teaching, after 2 days' notice to such teacher.
Do.	School committee	Immorality		Teacher must be given an opportunity to make defense.
North Dakota:	State board of examiners	Any cause that would have caused it not to be granted if known at time it was granted, or for incompetency, immorality, or gross neglect of duty		
Ohio:	State board of examiners	Immorality or other grounds which would have prevented the issue of said certificates		
Oklahoma:	Power granting same	Immorality, intemperance, crime against the law of the State, or gross neglect of duty		
Oregon:	Authority issuing	Immorality, intemperance, crime against the law of the State, or gross neglect of duty		
Pennsylvania:	State superintendent	Incompetency, cruelty, negligence, immorality, or intemperance		Reasonable notice in writing must be given to the parties interested.
Rhode Island:	State board of education	Sufficient cause		Due notice must be given and an opportunity for a hearing.
South Carolina:	State board of education	conduct, profanity		
Tennessee:	County superintendent or board of education	Immoral conduct		Right of appeal may be taken to the State board of education.
Texas:	State superintendent	Conducting school improperly or unworthiness to instruct youth of the State, or failure to attend required institute, or abandoning contract		Sufficient evidence furnished by the county superintendent.
Texas:	Authority issuing	Conducting school improperly or unworthiness to instruct youth of the State, or failure to attend required institute, or abandoning contract		Provided the holder is notified and given opportunity to be heard and to appeal to State superintendent and State board of education.

TABLE 19.—*Suspension and revocation of certificates—Continued.*

Names of kinds of certificates.	Officer empowered to suspend or revoke	Grounds upon which suspension or revocation may be made.	Process.
Utah: State diplomas and State certificates..... Local certificate. . . .	State board of education..... Board of examiners for local certificates		Board of examiners for local certificates shall recommend to the board of education.
Vermont: Any certificate.....	State commissioner of education....	Conduct or standard competency to maintain	Upon recommendation of the superintendent under whom teacher has last taught.
Virginia: Any certificate.....	Division superintendent....	Cause	Subject to appeal to the State superintendent within 20 days.
Washington: Any certificate.....	Authority issuing...	Immorality, intemperance, crime, or unprofessional conduct.	On complaint of any superintendent. The defendant is given opportunity to be heard.
West Virginia: Any certificate.....	State superintendent . . .	Immorality, unfitness to teach, and other just causes.	
Wisconsin: Any certificate.....	State or county superintendents..	Incompetency, immoral conduct	The holder must be served with written notice and given opportunity for defense. Charges must be made in writing.
Wyoming: Any certificate.....	State board of education.....	Neglect of duty, incompetence, immorality, or reprehensible conduct.	Written charges must be made and a personal hearing given.

TABLE 20.—Minimum age requirements.—Fees required for certificates and funds to which they are credited.

State.	Minimum age requirement.	Kind of certificate.	Fee.	Funds to which fees are credited.
Alabama.....	17 (any) ¹	Third grade.....	\$1.00	
		Second grade.....	1.50	
		First grade.....	2.00	
		Life grade.....	3.00	
Arizona.....	18 (any).....	.....	0	
Arkansas.....	None.....	State life.....	10.00	
		State professional.....	5.00	
		State first grade and county.....	1.00	
California.....	18 (any).....	County.....	2.00	County treasurer for teachers' institute and teachers' library fund.
Colorado.....	18 (any).....	State.....	10.00	Expenses of State board.
		State.....	0	
		County.....	1.00	Normal institute fund.
Connecticut.....	None.....	.....	0	
Delaware.....	20 (any).....	.....	0	
Florida.....	None.....	Third grade.....	1.00	
		Second grade.....	1.50	
		First grade.....	2.00	
		Primary.....	3.00	
		Special.....	2.50	
		State.....	5.00	
Georgia.....	18 (any).....	3-year professional and State 1-year high school.....	2.00	
		State life and State high school.....	10.00	
		State 5-year or renewals.....	5.00	
		Examination or annual registering of county certificate.....	1.00	
Illinois.....	18 (any).....	.....	
Indiana.....	.....	All certificates....	.75	} Used to pay for grading manuscripts.
		Life.....	5.00	
Iowa.....	18 (any).....	County.....	1.00	} State and county treasurers.
		State.....	2.00	
		Life validation....	5.00	
Kansas.....	1st grade, 20; 2d, 3d, and temporary, 18.	County.....	² 1.00	} \$1 of all fees collected is placed to the credit of county institute fund.
		.....	² 2.00	
Kentucky.....	State diploma, 24; State certificate, 21; county certificate, 18.	County.....	3.00	
		State.....	4.00	
Louisiana.....	18.....	High school and first grade.....	2.00	
		Second grade.....	1.50	
		Third grade.....	1.00	
Maine.....	17 (any).....	.....	0	
Maryland.....	18.....	.....	0	
Massachusetts.....	None.....	.....	0	
Michigan.....	18.....	Male applicants...	1.00	} Teachers' institute fund.
		Female applicants...	1.50	
Minnesota.....	1st and 2d grades, 18.	Any certificate—examination or renewal.....	.50	} Institute fund.
		Professional or for indorsement.....	1.00	
	Limited 2d year, 17.	Permanent professional.....	5.00	
			
Mississippi.....	17 (any).....	Not stated.....	³ .50	} Expenses of teachers' associations and teachers' meetings and grading of papers.
		.....	1.00	
Missouri.....	None.....	All renewals and indorsements.....	1.50	
		County certificates.....	3.00	
Montana.....	18.....	County.....	1.00	
		State or life.....	1.50	
Nebraska.....	None.....	Examination, registration, renewal, or indorsement.....	1.00	
		Examination for county.....	1.50	\$1 for institute and 50 cents for expenses of examination.

¹ Minimum age required for any certificate, 17 years.
² At educational institutions.
³ By county examining board.
⁴ \$1 for duplication.

TABLE 20.—Minimum age requirements.—Fees required for certificates and funds to which they are credited—Continued.

State.	Minimum age requirement.	Kind of certificate.	Fee.	Funds to which fees are credited.
Nevada.....	20.....	High school and first-grade elementary.	0	
	18.....	All others.....	0	
New Hampshire.	None.....		0	
New Jersey.....	18 (any).....		0	
New Mexico.....	18 (any).....	Professional life...	10.00	
		Professional 5-year.	5.00	
		All others.....	1.00	
New York.....	18 (any).....		(*)	
North Carolina..	18 (any).....		0	
North Dakota...	18 (any).....	Third and fourth grades.	2.00	
		Special and second grade.	3.00	
		First grade professional.	5.00	
Ohio.....	18 (any).....	State.....	5.00	State treasurer.
		County.....	(*)	County education fund.
Oklahoma.....	1st grade, 20.....	County.....	2.00	County normal institute fund.
	2d and 3d, 18.....	State.....	4.00	For grading manuscripts.
Oregon.....	18 (any).....	Life State.....	3.00	
		Five-year State, primary 5 year, 1 year State.	2.00	
		Temporary county	2.50	
		Special.....	3.00	
		Renewal of State..	1.00	
Pennsylvania...	18 (any).....		0	
Rhode Island....	None.....		0	
South Carolina..	18 (any).....		0	
South Dakota...	18 (any).....	Life (examination)	10.00	
		State (examination).	5.00	
		Provisional State.	2.00	State professional fund.
		First, second, third, and primary.	1.00	Fifty cents to institute fund; 50 cents to general State fund.
Tennessee.....	18 (any).....		0	
Texas.....	16 (any).....	All examinations..	2.00	If for second-grade county, the \$2 retained by examiners, and if for State certificate, \$1 is retained and \$1 forwarded to State department of education.
Utah.....	None.....		0	
Vermont.....	17 (any).....		0	
Virginia.....	18.....		0	
Washington.....	18.....	All.....	1.00	County institute fund.
West Virginia...	18.....	Any certificate....	1.00	Fees received for examination used by county superintendent for expenses of examination. Fees received for certificates granted on graduation or credentials credited to general school fund.
Wisconsin.....	None.....	State.....	2.00	
		County.....	0	
Wyoming.....	17.....	Temporary.....	.50	
		Renewals and others.	1.00	Credit of certification board.

* Prescribed.
* Not stated.

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CONTENTS.—Proceedings of associations—Educational history and biography—Current educational conditions—Educational theory and practice—Educational psychology; Child study—Educational tests and measurements—Special methods of instruction—Special subjects of curriculum—Kindergarten and primary school—Rural education—Secondary education—Teacher training—Teachers' salaries and professional status—Higher education—School administration—School management—School buildings and grounds—School hygiene and sanitation—Sex hygiene—Physical training—Play and recreation—Social aspects of education—Moral and religious education—Manual and vocational training—Vocational guidance—Commercial education—Professional education—Civic education—Americanization—Education of service men—Education of women—Negro and Indian education—Exceptional children—Education extension—Libraries and reading.

NOTE.

The record comprises a general survey in bibliographic form of current educational literature, domestic and foreign, received during the monthly period preceding the date of publication of each issue.

The issues of the record for May and June, 1921, are combined in the present double number. Publication of the record is now suspended for the summer.

This office can not supply the publications listed in this bulletin, other than those expressly designated as publications of the Bureau of Education. Books, pamphlets, and periodicals here mentioned may ordinarily be obtained from their respective publishers, either directly or through a dealer, or, in the case of an association publication, from the secretary of the issuing organization. Many of them are available for consultation in various public and institutional libraries.

Publications intended for inclusion in this record should be sent to the library of the Bureau of Education, Washington, D. C.

PROCEEDINGS OF ASSOCIATIONS.

- 726. Association of colleges and secondary schools of the Southern states.** Proceedings of the twenty-fifth annual meeting, Chattanooga, Tenn., December 2-3, 1920. Tulane university press, New Orleans [1921?] 114 p. 8°. (Edward A. Bechtel, secretary, New Orleans, La.)

Contains: 1. J. P. McCalle: The need of moral and religious training in school and college and how to meet it, p. 53-67. 2. G. F. Zook: The problem of teacher supply, p. 74-84. 3. A. Beziat: Modern methods of teaching French, p. 97-110.

727. National education association. Addresses and proceedings of the fifty-eighth annual meeting held at Salt Lake City, Utah. July 4-10, 1920. vol. 58. Pub. by the Association, Secretary's office, Washington, D. C., 1920. 724 p. 8°. (J. W. Crabtree, secretary, Washington, D. C.)

General sessions.—Contains: 1. G. D. Strayer: A national program for education, p. 41-48. 2. P. P. Claxton: Adequate pay for teachers, p. 55-58. 3. Florence E. Ward: The farm woman's problems, p. 75-79. 4. T. D. Wood: The nation's duty to the health of the school children, p. 79-81. 5. G. A. Iverson: The school board's place in the educational system, p. 88-89. 6. E. O. Sisson: Definite objectives in education, p. 100-103.

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Department of Rural Education.—19. M. S. Pittman: Zone plan of supervision, p. 289-92.

Department of Classroom Teachers.—20. Elizabeth A. Woodward: Brief view of one year's experience in New York state with classes for non-English-speaking women, p. 345-48. 21. Sara H. Fahey: Teacher's salary as a factor in establishing caste, p. 351-55.

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Department of Superintendence.—24. R. W. Himelick: Current tendencies and problems in education, p. 424-28. 25. A federal department of education: I. W. P. Burris, p. 444-49. II. W. C. Bagley, p. 449-58. 26. L. D. Coffman: Teachers' associations, p. 458-65. 27. A. L. Hall-Quest: Supervised study in the grades, p. 502-4. 28. W. D. Lewis: Teaching citizenship, p. 531-35. 29. Teachers' salaries and salary schedules in the United States, 1918-1919, prepared for the Commission on the emergency in education by E. S. Evenden, p. 537-702.

EDUCATIONAL HISTORY AND BIOGRAPHY.

728. Burton, H. E. The elective system in the Roman schools. *Classical journal*, 16: 532-35, June 1921.

Historical sketch of the elective system in the schools of Rome in the first century after Christ.

729. Wolff, Maurice. Napoléon I^{er}, Fontanes et l'université impériale. *Revue universitaire*, 30: 347-55, May 1921.

CURRENT EDUCATIONAL CONDITIONS.

GENERAL AND UNITED STATES.

730. Coffman, Lotus D. The reconstruction of American education. *Ohio teacher*, 41: 355-58, April 1921.

Answers such questions as How can public education be best financed? Shall we have more or less knowledge; higher or lower moral standards?

731. Davidson, P. E. The socialists on equality of educational opportunity. *School and society*, 13: 396-409, April 2, 1921.

Author gives the opinions of a number of socialists regarding how equality of educational opportunity may best be obtained.

732. Henderson, Hanford. The new education. *North American review*, 213: 644-55, May 1921.

Criticises modern education under what he calls "the sophistries of school practice growing out of that phrase so dear to modernist ears 'the rights of thy child,' and to the incomplete and fragmentary culture which colleges offer under the pseudo-liberalism of the elective system." Emphasizes the advantages of the prescribed course.

733. Kirkpatrick, W. H. The demands of the times upon our schools. *Teachers college record*, 22: 127-136, March 1921.

Education to meet its full duty must order itself in relation to the social group as a whole.

734. Miller, Paul G. School progress in Porto Rico. *Survey*, 46: 216, May 14, 1921.

Statistics based on the three Federal censuses of 1899, 1910, and 1920, by the commissioner of education of Porto Rico.

735. Pearce, J. E. The reorganization of education. *Southwestern school review*, 1: 5-8, April 1921.

The author does not advocate putting things out of the school curriculum, but would put a different emphasis on many subjects. Speaks of the over-emphasis upon languages and the under-emphasis upon science.

736. Reisner, E. H. National education in an international world. *School and society*, 13: 563-72, May 14, 1921.

After a discussion of the development of the systems of national education in France and Prussia, the author goes on to describe how education can best serve toward and in the international world.

737. Stetson, Fred L. and Almack, John C. County school systems of Oregon, ranked in the order of their efficiency under measurements used by the Russell Sage foundation. Salem, Oreg., State printing department, 1921. 26p. graphs, tables. 8°.

738. Stevenson, J. J. Education and unrest. *School and society*, 13: 421-27, April 9, 1921.

Discusses the problems which now confront education.

FOREIGN COUNTRIES.

Latin America.

739. Brainerd, Helen L. Latin-American students, the nation's guests. *Bulletin of the Pan American union*, 52: 367-71, April 1921.

740. Shoens, George T. Report on the public school system, including a survey and recommendations. Managua, Nicaragua, Tipografía Alemana de C. Heuberger [1920] 83p. 8°. (Republic of Nicaragua, ministry of public instruction, office of the educational adviser)

France.

741. Derôme, Juvénal. L'enseignement des notions scientifiques à l'école primaire élémentaire, *Revue pédagogique*, 78: 235-64, 327-56, April, May 1921.

742. Hardy, Georges. L'éducation française au Maroc. *Revue de Paris*, 28: 773-88, April 15, 1921.

743. **Institute of international education.** Opportunities for higher education in France. New York, 1920. cover-title, 144p. 12°.

CONTENTS: The French system of public instruction.—The American student in France.—The French universities.—Other institutions of higher learning.—Descriptions of individual institutions.

744. **Machat, F.** La natalité en France et les éducateurs. I.—La question de la dépopulation, doit-elle et peut-elle être traitée à fond dans les écoles? *Éducation*, 12: 639-47, June 1921.

Germany.

745. **Gaudig, Hugo.** Die deutsche schule innerhalb der nationalen kulturentwicklung der zukunft. *Zeitschrift für pädagogische psychologie und experimentelle pädagogik*, 22: 1-5, January-February 1921.
746. **Saupe, Walther.** Das wertproblem in seiner bedeutung für die innere organisation des höheren schulwesens. Gedanken zur reform von lehrplan und lehrfach. *Zeitschrift für pädagogische psychologie und experimentelle pädagogik*, 22: 87-103, March-April 1921.

Italy.

747. **McKenzie, Kenneth.** Opportunities for higher education in Italy. New York, 1921. 61p. 8°. (The Institute of international education, 2d. ser. Bulletin no. 2)

Switzerland.

748. **Widemer, Marie.** Schools and school life in Switzerland. *Progressive teacher*, 27: 13-18, May 1921.
- An illustrated account of Swiss schools.

Czechoslovakia.

749. **Lasker, Bruno.** [School system of Prague.] *In* Prague's window to the west. *Survey*, 46: 343, June 11, 1921.

India.

750. **Vander Schueren, T.** The education of Indian boys of the better or upper class families. *Asiatic review*, n. s. 17: 47-63, January 1921.
- A paper read at a meeting of the East India association, in London, October 25, 1920, by Father T. Vander Schueren, S. J. Discussion on the paper, p. 67-77.

Far East.

751. **Burgess, John S.** New tools in old China. *Survey*, 46: 238-39, May 21, 1921.
- Discusses the efforts in China to popularize the mandarin or spoken language in written form. This intellectual movement, inaugurated in 1919, has been called the Chinese renaissance.
752. ———. Opinion in China. *Survey*, 46: 108-10, April 23, 1921.
- Influence of teachers and students in the colleges and high schools of Peking in advancing democracy in China.

753. Dewey, John. New culture in China. *Asia*, 21: 581-86, 642, July 1921. illus.

Describes the "student" movement in China for a new culture, in which what is best in western thought is to be freely adopted—but adapted to Chinese conditions, employed as an instrumentality in building up a rejuvenated Chinese culture. Dr. Dewey thinks the new culture movement provides one of the firmest bases for hope for the future of China.

754. Fleming, D. J. Some aspects of the Philippine educational system. *International review of missions*, 10: 249-59, April 1921.

EDUCATIONAL THEORY AND PRACTICE.

755. Autin, Albert. *Autorité et discipline en matière d'éducation*. Avec une préface de M. Jules Payot. Paris, F. Alcan, 1920. 136p. 12°. (*On cover: Bibliothèque de philosophie contemporaine*)

Bibliographie: p. 131-34.

756. Bernard, Paul. *Comment on devient un éducateur; à travers la vie scolaire*. Paris, F. Nathan, 1920. 382p. 12°.

757. Charters, W. W. Educational aims, ideals, and activities. *Journal of educational research*, 3: 321-25, May 1921.

Says that those who advocate social efficiency as the aim of education should determine: "First, the ideals of socially efficient individuals; second, the fundamental physical and mental activities carried on by the people of the United States; and third, by a process of laborious analysis to discover exactly what important specific activities shall be taught and what ideals shall control in the performance of each."

758. Dewey, Evelyn. The new education: I. Its trend and purpose. II. The modern school. *Nation*, 112: 654-55, 684-85, May 4, 11, 1921.

First article discusses the trend and purpose of modern education; the adaptation of the school to real life, etc. Second article develops the theme of reorganization of education so that every child shall have "the real experiences that are necessary to enable him to be an efficient, independent, and creative member of society."

759. Garnett, James Clerk Maxwell. *Education and world citizenship; an essay towards a science of education*. Cambridge, At the University press, 1921, x, 515 p. diagrs., fold. chart. 8°.

In the light of modern knowledge of physiological psychology, this study attempts to formulate a few simple and general principles of education, and so to approach nearer to a science of education. The writer holds that a perfect system of education must be world-wide: or, at least, that in the interests of human progress, the ultimate aim of education should be the same the world over. The book is divided into three parts: (1) Introductory and historical; (2) The aim of education; (3) A system of education designed to achieve the aim just set forth.

760. Gerould, Katharine Fullerton. What constitutes an educated person today? *Atlantic monthly*, 127: 744-48, June 1921.

According to the writer, the minimum for an educated person is ability to use one's native language correctly; a general notion of the problems of the race, and an idea of how the race has tried to solve some of them—either mental, spiritual, political or physical; also some degree of orientation in time.

761. Poitrinal, L. *Pédagogie pratique; à l'usage des instituteurs et des candidats au certificat d'aptitude pédagogique*. Paris, A. Colin, 1921. 313 p. 12°.

762. **Richards, Albertine A.** Motive in education. Pedagogical seminary, 28: 60-72, March 1921.

Concludes that the child who is not motivated may acquire a rudimentary education, but he has also learned to be satisfied with an occupation which does not enlist all his powers. Deprecates the thwarting of desire and the constant interruption of self-selected activity in the education of children.

763. **Snedden, David.** Specific varieties of mental discipline as objectives of school education. Educational administration and supervision, 7: 255-66, May 1921.

Says that educators should endeavor to disentangle from our contemporary vocational, civic, and cultural life those objectives of mental discipline of importance to our civilization which can be made objectives of school education. Discusses the requirements for vocations, civic life and culture.

764. **Vial, Francisque.** La doctrine d'éducation de J. J. Rousseau. Paris, Delagrave, 1920. 208 p. 12°.

765. **Wells, H. G.** The salvaging of civilization; the probable future of mankind. New York, The Macmillan company, 1921. 199p. 12°.

In this book the author outlines measures of educational reconstruction tending, in his belief, toward the establishment of a wide-thinking, wide-ranging education upon which a new world order may be based.

766. **Yeomans, Edward.** Shackled youth; comments on schools, school people, and other people. Boston, The Atlantic monthly press [1921] 138p. 12°.

EDUCATIONAL PSYCHOLOGY; CHILD STUDY.

767. **Adams, Henry Foster.** The mythology and science of character analysis. Scribner's magazine, 69: 569-75, May 1921.

768. **Briffault, Robert.** Psyche's lamp; a revaluation of psychological principles as foundation of all thought. London, G. Allen & Unwin, ltd.; New York, The Macmillan company [1921] 240p. 12°.

769. **Keener, E. E.** Value of fighting instinct. Southern school journal, 32: 12-17, May 1921.

A review of the situations which arouse the fighting instinct and how the teacher can deal with some forms of its expression.

770. **Paton, Stewart.** Human behavior in relation to the study of educational, social, and ethical problems. New York, C. Scribner's sons, 1921. 465 p. 8°.

771. **Payot, Jules.** Le travail intellectuel et la volonté, suite à "L'éducation de la volonté". Paris, F. Alcan, 1921. 272p. 8°. (On cover: Bibliothèque de philosophie contemporaine)

772. **Pfister, Oscar.** La psychanalyse au service des éducateurs. Conférences faites à un cours de vacances de la Société pédagogique suisse; traduites par les soins de Pierre Bovet. Berne, E. Bircher, 1921. vii, 208p. 8°.

- ✓ 773. **Tucker, D. Leslie.** Psychoanalysis and education. Journal of education and School world (London) 53: 281-83, May 2, 1921.

Says that "the psychoanalyst joins forces with all who preach vocation, and that every individual must find the one vocation to which his own psychology calls him."

EDUCATIONAL TESTS AND MEASUREMENTS.

774. **Alexander, Carter.** Presenting educational measurements so as to influence the public favorably. *Journal of educational research*, 3:345-58, May 1921.

Says that measurement workers are prepared as are no other schoolmen to present educational needs to the public. Discusses methods of publicity.

775. **Allen, Elbert.** Graphical representation of grades of high school pupils. *School review*, 29:467-71, June 1921.

Describes a set of three cards upon which test grades may be graphically represented, as used in the department of mathematics in the University high school of the University of Chicago.

776. **Bracewell, Ray H.** The Freeman-Rugg general intelligence tests as an aid to economy in school administration. *School review*, 29:460-66, June 1921.

Effect of tests in the Burlington high school, Burlington, Iowa. For the purpose used they have, says the writer, "a high degree of reliability."

777. **Bright, I. J.** The intelligence examination for high school freshmen. *Kansas teacher*, 13:7-11, May 1921.

Concludes that the Terman group intelligence examination is well adapted to high-school freshmen, and the application of intelligence tests to first-year high-school classes is practicable and necessary.

778. **Buckingham, B. R.** Intelligence and its measurement: a symposium. *Journal of educational psychology*, 12:271-75, May 1921.

Other contributions to the symposium are contained in the April issue. The writer discusses the nature of intelligence and its measurement.

779. **Chassell, Clara F. and Laura M.** A survey of the three first grades of the Horace Mann school by means of psychological tests and teachers' estimates, and a statistical evaluation of the methods employed. *Journal of educational psychology*, 12:243-52. May 1921.

Part 2 of an article published in the February number. It records "the correlations obtained between the various measures, evaluating them by comparing them with a composite of all the measures utilized, and giving a detailed account of the statistical methods employed in the conversion of these measures into mental ages."

780. **Douglass, Harl Roy.** The derivation and standardization of a series of diagnostic tests for the fundamentals of first year algebra. [Eugene, Or.] The University, 1921. 48p. 8° (On cover: University of Oregon publication, vol. 1, no. 8)

Bibliography: p. 47-48.

781. **Freeman, Frank N.** The bearing of the results of mental tests on the mental development of the child. *Scientific monthly*, 12:558-76, May 1921.

Discusses age progress in particular intellectual functions and in general or composite functions; relation of age progress to individual differences, correspondence between physical and mental development, etc.

782. ———. The scientific evidence on the handwriting movement. *Journal of educational psychology*, 12:253-70, May 1921.

The method used in this test consisted of photographing the movement of the hand and arm by a kinetoscopic camera.

783. Gates, Arthur I. The true-false test as a measure of achievement in college courses. *Journal of educational psychology*, 12: 276-87, May 1921.
Discusses the usefulness of intelligence and educational tests., etc.
784. Haggerty, M. E. Recent developments in measuring human capacities. *Journal of educational research*, 3: 241-53, April 1921.
Reviews the accomplishments of the year in mental measurements; the extension of intelligence examinations in public schools; the development of rating scales for teachers and pupils, etc. Address of the retiring president of the National association of directors of educational research, March 8, 1921.
785. Harvey, N. A. A mental survey of the training school. *American schoolmaster*, 14: 176-84, May 1921.
A comparison of the Otis tests and the Army tests.
786. Kelley, Truman L. The reliability of test scores. *Journal of educational research*, 3: 370-79, May 1921.
An endeavor to show the need of a standardized procedure in measuring the reliability of the tests which are in use.
787. Malherbe, E. G. New measurements in private schools. *Survey*, 46: 272-73, May 28, 1921.
Describes a survey of the Foxwood school, Flushing, L. I., which has recently been reorganized. The pupils have been classified on scientific lines.
788. Monroe, Walter S. Report of division of educational tests for '19-20. Urbana, Illinois, The University of Illinois [1921] 64p. 8°. (Bureau of educational research. Bulletin no. 5 [University of Illinois bulletin, vol. xviii, no. 21])
789. Peterson, Joseph. Methods of interpreting results in the Cleveland arithmetic tests. *Journal of educational research*, 3: 280-92, April 1921.
790. Pressey, S. L. Scale of attainment no. 2; an examination for measurement in history, arithmetic, and English in the eighth grade. *Journal of educational research*, 3: 359-69, May 1921.
Presents an examination for measuring achievement in the "promotion" subjects, in the last year of the elementary school, and for comparing graduation standards.
791. Town, Clara H. Analytic study of a group of five and six-year-old children. Iowa City, The University [1921] 87p. incl. tables, diagrs. 8°. (University of Iowa studies in child welfare vol. I, no. 4. [University of Iowa studies, 1st ser., no. 48. May 1, 1921])
792. West, Roscoe L. An experiment with the Otis group intelligence scale in the Needham, Massachusetts, high school. *Journal of educational research*, 3: 261-68, April 1921.
Says there was a very definite tendency for the youngest pupils to make the best records; and that there was a fairly high correlation between the Otis test and the teachers' marks.
793. Witham, Ernest C. Rating the general appearance of primary number work. *Journal of educational research*, 3: 273-79, April 1921.

SPECIAL METHODS OF INSTRUCTION.

794. Dyer, W. P. Some standards for home-project work in agriculture. *School review*, 29: 451-59, June 1921.
Home-project work of pupils who have received agricultural instruction in Smith-Hughes departments of high schools, 1919-20.

795. Grinstead, W. J. The project method in beginning Latin. *Classical journal*, 16: 308-308, April 1921.
796. Landsittel, F. C. Giving effectiveness to observation work. *Educational administration and supervision*, 7: 284-90, May 1921.
Advocates the following order of activities: (1) Setting the problem, with development of principal leads to its solution; (2) individual study; (3) brief group meeting preparatory to observation; (4) observation; (5) final group study and individual written report.
797. Lasher, G. S. The project method: giving purpose to English composition. *Illinois association of teachers of English. Bulletin*, 13: 1-14, April 1, 1921.
Illustrates by concrete examples how projects arise and are worked out.
798. Lott, H. C. Teaching by the project method. *American schoolmaster*, 14: 185-191, May 1921.

SPECIAL SUBJECTS OF CURRICULUM.

READING.

799. Gilliland, A. R. A photographic method for studying reading. *Visual education*, 11: 21-26, 55, February 1921.
The purpose of the article is to point out some problems of reading and describe how they have been solved.
800. Gray, W. S. The diagnostic study of an individual case in reading. *Elementary school journal*, 21: 577-94, April 1921.
An investigation of a fourth-grade boy who was unable to read effectively.
801. Hawley, William E. The effect of clear objectives on the teaching of reading. *Journal of educational research*, 3: 254-60, April 1921.
Study based on tests made in the fall of 1919 at the Francis Parker school. The Monroe, Courtis, and Gray tests were used.
802. Horn, Ernest. A constructive program in silent reading. *Journal of educational research*, 3: 336-44, May 1921.
Discusses constructive programs in speed, organization, and remembering.
803. Kirby, Thomas J. A study of silent reading in Western Pennsylvania . . . Pittsburgh, Pa., Press of Smith bros. co., inc. [1920] 37p. incl. tables, diagrs. 8°. (University of Pittsburgh bulletin. Announcement series, vol. 16, no. 17)
At head of title: University extension, 1920-1921.
804. Lewis, W. D. and Rowland, A. L. Silent reading. *Southern school journal*, 32: 17-21, May 1921.
"Silent reading is an almost universal process of thought gathering by civilized man."

ENGLISH AND COMPOSITION.

805. Barnes, Harold. Teaching children to write verse. *Normal instructor and primary plans*, 30: 28, 71, May 1921.
An effort to write verse develops in the child a constructive, creative imagination.
806. Brown, Rollo Walter, ed. The writer's art; by those who have practiced it. Cambridge, Harvard university press, 1921. xv, 357p. 12°.

Twenty-eight essays chosen from the writings of successful authors, on the technique of composition. Among these authors are William Hazlitt, Sidney Dobell, Frank Norris, Henry James, Joseph Conrad, Guy de Maupassant, and Sir Arthur Quiller-Couch.

807. **Certain, C. C.** By what standards are high school pupils promoted in English composition? *English journal*, 10:305-15, June 1921.

Endeavors to show the extent to which experienced teachers of English may vary in their opinions as to a satisfactory "passing standard" in composition for each of the four grades of high school.

808. **Hetel, Margaret H.** Value of English in secondary schools. *Education*, 41:673-80, June 1921.

809. **Ryffel, Grace H.** Group projects in upper-grade composition. *English journal*, 10:337-40, June 1921.

Describes the work of a "junior arts and crafts exposition" in the Wyman school, St. Louis, Mo.

810. **Smith, Homer J.** English in part-time classes. *English journal*, 10:247-55, May 1921.

Discusses the aims of part-time classes; students, groups, and courses; and chances to serve, etc.

811. **Williams, Stanley T.** The parent of schoolboy novels. *English journal*, 10:241-46, May 1921.

Says that Tom Brown's school days is not only the parent of all schoolboy novels, but the best of its kind. A copy is still given to every boy at Rugby.

LITERATURE.

812. **Downey, June E.** Have you any imagination?—Here's a test. *Independent*, 447-48, 468-69, April 30, 1921.

Describes a test for literary imagination, and the ability to write fiction.

813. **Skinner, Margaret M.** Five weeks' intensive study of the drama with high school seniors. *English journal*, 10:268-73, May 1921.

Describes an experiment in the high school of the University of Wisconsin.

ANCIENT CLASSICS.

814. **Brelet, Henri.** Vers la véritable culture classique. *Revue internationale de l'enseignement*, 41:99-116, March-April 1921.

On classical education in France with reference to the plan of studies of 1902.

815. **Donnelly, Francis P.** Keep the classics but teach them. *America*, 25:179-81, June 11, 1921.

Says that if the art of self-expression is the best test of education, then Greek literature, the finest masterpiece of self-expression, should remain, and Greek literature should be taught, as for centuries it was taught, with interpretation and translation furnished to the student, leaving the time of training to be devoted not to special sciences proper to the university, but to the general training in appreciation and expression.

816. **Stafford, Russell H.** The humanities in modern education. *Classical journal*, 16:477-87, May 1921.

A plea for the classics, history and ethics in the modern curriculum.

MODERN LANGUAGES.

817. **Cline, E. C.** A theory and a foreign language course. *Modern language journal*, 5:435-43, May 1921.

Discusses the foreign language work in the junior high school of Richmond, Ind.

818. **Morgan, B. Q. and Kerster, James.** Bibliography of modern language methodology in America for 1919. *Modern language journal*, 5:402-5, April 1921.

819. National teachers' seminary, Milwaukee, Wis. Monatshefte für deutsche sprache und pädagogik . . . Schriftleiter: Max Griebisch. Jahrbuch, 1920. Milwaukee, Wis., National teachers' seminary [1921] 72p. 8°.

- ✓ 820. Ogden, R. M. The future of modern language in the high school. Modern language journal, 5: 353-64, April 1921.

Contents that a continued decline in support and interest in modern languages may be expected if the standards of efficiency in teaching such studies are not kept at a high level.

821. Whitney, Marian P. Random notes of a modern language teacher in Europe. Modern language journal, 5: 429-34, May 1921.

Notes on French, Italian, German, Czech, and Norwegian schools; and methods of teaching foreign languages.

MATHEMATICS.

822. Brooks, Florence M. A reorganized course in junior high school arithmetic. Mathematics teacher, 14: 179-88, April 1921.

The course described was tried out in the seventh and eighth-grade classes of Fairmont junior high school, Cleveland, Ohio, with satisfactory result. The plan is to present, as one unit, the cumulative business ideas which come under the heading, "The application of percentage."

823. Brown, Ernest W. The history of mathematics. Scientific monthly, 12: 385-413, May 1921.

- ✗ 824. Elective courses in mathematics for secondary schools. Mathematics teacher, 14: 161-70, April 1921.

A preliminary report by the National committee on mathematical requirements of the National council of teachers of mathematics.

825. Kinney, J. M. The function concept in first year high school mathematics. School science and mathematics, 21: 541-54, June 1921.

Gives specific examples employed in developing the function concept.

826. Myers, G. W. Class exercise types in high school mathematics, with norms for judging them. School science and mathematics, 21: 535-40, June 1921.

Discusses six of the standard types of class exercise. In a future paper the writer will treat the problem, the topic, the application, the test, the research, and the appreciation types of class exercise.

827. National committee on mathematical requirements. Terms and symbols in elementary mathematics. Mathematics teacher, 14: 107-8, March 1921.

Preliminary report of the committee. "So far as reasonable," says the report, "the terms used should be *international*. This principle excludes the use of all individual efforts at coining new terms except under circumstances of great urgency."

828. Remarks on the report of the National committee on mathematical requirements on college entrance requirements. Mathematics teacher, 14: 187-42, March 1921.

Criticisms by E. B. Hedrick, p. 187-39; H. D. Gaylord, p. 189-42.

829. Smith, David E. Certain mathematical ideals of the junior high school. Mathematics teacher, 14: 124-27, March 1921.

Linking up the mathematics of the junior high school with the problems of real life.

SCIENCE.

830. Hopping, Aleita. Organization of biology and related sciences in city high schools. *School science and mathematics*, 21: 463-72, May 1921.

Study based on questionnaire sent to academic high schools in some of the larger cities of the United States. Says there is a very marked tendency toward placing biology in the second or higher school years.

831. Paucot, René. *Le rôle des sciences dans l'éducation*. Paris, A. Colin. 1920. 255 p. 12°.

832. Watson, Charles H. A plan for teaching the "principle of work" according to the psychological order. *School science and mathematics*, 21: 428-36, May 1921.

Describes an experiment tried by the writer with a class in physics, at the University of Kansas training school.

NATURE STUDY.

833. Alburtis, Susan S. How school children study trees. *American forestry*, 27: 291-98, May 1921. illus.

Shows how the children of the sixth, seventh, and eighth grades of the Washington, D. C., schools studied trees, in their recent campaign for a National tree, inaugurated by the American forestry association.

GEOGRAPHY.

834. Branom, Mendel E. and Branom, Fred K. *The teaching of geography; emphasizing the project, or active, method*. Boston, New York [etc.] Ginn and company [1921] viii, 292p. 12°.

835. Miller, Émile. *Pour qu'on aime la géographie . . .* Montreal, G. Du-
charme, 1921. 242p., 3 l. 12°.

836. Whitbeck, B. H. Thirty years of geography in the United States. *Journal of geography* 20: 121-28, April 1921.

Presidential address given before the National council of geography teachers, Chicago, December 29, 1920.

HISTORY.

837. Dowell, E. S. Method of history instruction used in the Bucyrus high school. *Ohio history teachers journal*, March 1921, p. 237-45. *Bulletin* no. 21.

The method discussed is an attempt to improve the technique of history instruction.

838. Kelsey, R. W. History teaching in Germany. *Historical outlook*, 12: 153-57, May 1921.

Discusses the effects of the war on teachers and the teaching of history in Germany. Gives a syllabus of courses in modern history in Germany universities. Supplemented by a bibliography.

839. Knowlton, Daniel C. Syllabus for modern history in tenth grade. *Historical outlook*, 12: 165-84, May 1921.

Part 4 of the report of the Committee on history and education for citizenship. The work of Grades X and XI is to constitute a minimum requirement in history for all graduates of the four-year high school. Bibliography: p. 183-84.

840. Schmitt, B. E. Historical study in English universities. *Historical outlook*, 12: 109-13, April 1921.

For the benefit of teachers and students of history in America, this article gives some account of the opportunities afforded by the English universities.

841. **Simpson, Mabel E.** Supervised study of history. *Journal of the New York state teachers' association*, 8:81-86, April 1921.

How best to adjust educational content and procedure to the ability of the learner of history.

MUSIC.

842. **Music teachers' national association.** Papers and proceedings . . . Forty-second annual meeting, Chicago, December 29-31, 1920. Hartford, Conn., Pub. by the Association, 1921. 260p. 8°. (Robert G. McCutchan, secretary, DePauw university, Greencastle, Ind.)

Contains: 1. C. H. Farnsworth: How music educates, p. 23-33. 2. K. W. Gehrken: The music supervisor of the future, p. 34-43. 3. C. H. Miller: Music in the grade schools of the United States, p. 44-54. 4. Hollis Dann: Duties and responsibilities of the state towards music in the public schools, p. 65-67. 5. P. W. Dykema: Relation of school and community music, p. 78-88.

843. **Earhart, Will.** Essential factors in musical education. *Chicago schools journal*, 3:231-36, April 1921.

Reprinted from the Music bulletin.

844. **Manchester, Arthur L.** Practical music and the college curriculum. *Musical quarterly*, 7:252-60, April 1921.

A plea for practical music as a part of the college curriculum on account of its value as an educational factor.

845. **Zeiner, E. A. J.** Can music be made a live subject in a high school for boys? *Bulletin of high points*, 3:5-7, May 1921.

The author shows how the study of music can be made popular with boys and how they can be encouraged to sing.

ART.

846. **Hartrick, A. S.** Drawing; from drawing as an educational force to drawing as an expression of the emotions. London, I. Pitman & sons, ltd., 1921. 102p. plates. 12°.

847. **Mackaye, Percy.** University fellowships in creative art. *Forum*, 65:590-99, June 1921.

Discusses an experiment initiated by President R. M. Hughes in Miami university, Oxford, Ohio. The basic idea of the fellowship is the desire of the university to be instrumental in creating art and literature, not simply teaching them.

848. **Quénieux, Gaston.** L'art à l'école. *Éducation*, 12:538-45, 577-87, April, May 1921.

849. **Taylor, Stewart.** Clay modelling for schools; a suggestive course for teachers of modelling and for students. London, I. Pitman & sons, ltd., 1921. 139p. front., illus. 12°. (Pitman's handwork series.)

ELOCUTION.

850. **Brick, Adolph H.** A graphic interpretation of the proposition for debate. *Quarterly journal of speech education*, 7:149-57, April 1921.

851. **Camp, Pauline B.** Speech treatment in the schools of Grand Rapids, Mich.; a report of cases. *Quarterly journal of speech education*, 7:120-38, April 1921.

852. **Collins, G. Rowland.** Problems in teaching debate. *Quarterly journal of speech education*, 7:261-71, June 1921.

853. **Flemming, Edwin G.** An elementary college course in speaking. *Quarterly journal of speech education*, 7:189-212, June 1921.

Outlines a course for a class limited to 18 students.

854. Merry, Glenn N. Research in speech education. Quarterly journal of speech education, 7: 97-108, April 1921.

Report of the research committee of the National association of teachers of speech, read at the Cleveland meeting, December 1920. The inquiry included speech correction, voice science, theory of expression, speech composition, history of oratory, dialects, reading and dramatic production, and methods.

855. Whitmire, Laura G. The class play. Quarterly journal of speech education, 7: 189-48, April 1921.

Discusses the subject of high school dramatics, with emphasis on the problem of the senior play; how to conduct rehearsals, stage management, etc.

DRAMATICS.

- ✓ 856. Bullova, Alma M. Pantomime: its use in the high school. Quarterly journal of speech education, 7: 213-20, June 1921.

857. Platt, Agnes. Practical hints on training for the stage. London, S. Paul & co., 1920. 128p. 16°.

- ✓ 858. Rodigan, Mary V. Dramatics in the high school. English journal, 10: 316-26, June 1921.

Says that dramatics is "the laboratory of self-analysis and self-development"—that is to say, a high school course devoted to the special study of the theatre and of the drama. Gives suggestions for a two-year course in dramatics.

SAFETY.

859. Payne, E. G. Safety instruction. In St. Louis, Missouri. Board of education. Annual report, 1920. p. 90-103.

Instruction in accident prevention must be real education and should develop controls within the children themselves.

KINDERGARTEN AND PRIMARY SCHOOL.

860. Pavlovitch, Milivoie. Le langage enfantin; acquisition du serbe et du français par un enfant serbe. Paris, H. Champion, 1920. 203p. 8°.

861. Spirito, Ugo. L'errore fondamentale del metodo Montessori. Rivista pedagogica, 14: 37-47, January-February 1921.

862. Stockton, James L. Infant education. Education, 41: 617-23, June 1921.

Says that organized education, physical and mental, should begin with "the birth of the child; that in this early time the child should remain in the home under the care of its parents, but that parents should be assisted by the agents of society in the persons of visiting physical and pedagogical nurses." Work of the infant school in conjunction with the home.

RURAL EDUCATION.

863. Conference on rural education, State normal school, Worcester, Mass. Ninth annual conference, 1921. Education, 41: 549-609, May 1921.

Contains: 1. W. B. Aspinwall: Strengthening the rural community through the public school and allied agencies, p. 549-53. 2. A. W. Gilbert: Cooperative relations of the community and the rural school, p. 557-61. 3. Mrs. Irene W. Landers: Can we educate rural agencies to believe in and to practice cooperation with teachers? p. 562-70. 4. Payson Smith: Rural leadership—what shall it be in the future? p. 571-76. 5. Joseph Lee: Play and the ultimates, p. 577-87. 6. C. M. Gardner: Helping young people to help themselves—the Grange method and its results, p. 588-98. 7. C. A. Eastman: What can the out-of-doors do for our children, p. 599-605.

864. **Frost, Norman.** A comparative study of achievement in country and town-schools. New York, 1921. 70 [1] p. incl. tables. 8°.

Thesis (Ph. D.)—Columbia university, 1921.

CONTENTS: Previous objective studies of achievement in country schools.—Purpose and scope of the present study.—Achievement measured by the Trabue language scales.—Achievement measured by the Courtis standard research tests in arithmetic series B.—Achievement measured by the Thorndike silent reading scale Alpha 2.—Summary and conclusions.

865. **Gregg, Rachel E.** Rural school standards. Virginia teacher, 11: 123–28, May 1921.

SECONDARY EDUCATION.

866. **Davis, C. O.** The North central association. School review, 29: 444–50, June 1921.

Discusses the work of the North central association of colleges and secondary schools in accrediting secondary schools.

- ✓ 867. **Richardson, Myron W.** Making a high school program. Yonkers-on-Hudson, New York, World book company, 1921. vii, 27 p. fold. charts. 12°. (School efficiency monographs)

A clear exposition of the principles governing program making in high schools generally.

- ✓ 868. **Simmonds, Frank W.** Six-year high school in Lewiston (Idaho). Educational administration and supervision, 7: 291–97, May 1921.

- ✓ 869. **Sumstine, D. B.** The high school problem. Pennsylvania school journal, 69: 465–70, May 1921.

Given before the sixteenth annual convention of the High school department of the Pennsylvania state educational association.

TEACHER TRAINING.

870. **Aspinwall, William B.** The value of student-teaching in a teacher-training course, as judged by graduates of one, two, three, and four years' experience. Educational administration and supervision, 7: 267–73, May 1921.

Says that student teaching is one of the most valuable parts of the teacher-training course.

871. **Charters, W. W.** The improvement of college teaching. School and society, 13: 494–97, April 23, 1921.

Courses in college teaching offered by Carnegie institute of technology.

872. **Colorado.** State normal school, Greeley. Sections three, four, and five of the educational survey of Colorado state teachers college. III. Entrance and graduation requirements. IV. Teachers' qualifications, salaries, and total load, student load. V. Accounting and costs. Greeley, Col., The board of trustees, 1921. 60p. 8°. (Colorado. State teachers college bulletin ser. XX, no. 9, December, 1920.)

873. **Hertzog, Walter S.** A budget system for normal schools. Educational administration and supervision, 7: 274–83, May 1921.

Emphasizes the value of a budget system, and gives standards for budget items.

TEACHERS' SALARIES AND PROFESSIONAL STATUS.

874. Boas, George. What do teachers know? *Atlantic monthly*, 127: 668-69, May 1921.

A rejoinder to Professor West's article on what students do not know, which appeared in the March *Atlantic*. Says the issue is the education, not of the student, but of the teacher. In order to have intelligent students, we must have intelligent teachers. It should be recognized, also, that intelligence does not come from the mere acquisition of facts.

875. Eaton, Emily. Co-operative living for teachers. *Normal instructor and primary plans*, 30: 17-18, 65, June 1921.

Describes plans tried by teachers that have been successful.

876. Morrison, Cora B. The Denver salary schedule. *Survey*, 46: 111-12, April 23, 1921.

Discusses the salary schedule for the teachers in the public schools of Denver, which became effective on December 1, 1920. The plan was developed in a democratic way and carried out by the Grade teachers' association, an organization of 925 elementary and junior high school teachers.

877. Pearson, Francis B. The teacher. New York, C. Scribner's sons, 1921. 142p. 16°. (Vocational series.)

878. Stayer, Samuel Bechtel. The status of teachers in junior high schools. *School review*, 29: 379-87, May 1921.

A study of certain facts concerning the organization, administration and teaching staff of junior high schools, on the basis of data which were obtained by questionnaires sent to cities of different sizes in every state of the country.

879. Wade, J. H. Opportunities of teaching. *School life*, 6: 1, 13-14, May 1, 1921.

Teaching is the most vital of all professions and its importance should be placed before every man finishing his college course.

880. Watson, B. M. Merit and other factors in teachers' salary schedules. *American school board journal*, 62: 33-35, 112, May 1921.

The aim of this study is to find out the practice of the larger cities and towns in the formation and administration of teachers' salary schedules and to make helpful generalizations concerning this problem.

HIGHER EDUCATION.

881. National association of state universities in the United States of America. Transactions and proceedings . . . Vol. 18, 1920. Annual meeting . . . Washington, D. C., November 12-13, 1920. 168p. 8°. (Frank L. McVey, secretary, Lexington, Ky.)

Contains: 1. G. C. Sellery: Address [Junior colleges], p. 40-44. 2. A. A. Murphree: Address [Poor scholarship in universities], p. 51-59. 3. Frank Aydelotte: Address [American Rhodes scholars], p. 78-86. 4. S. P. Capen: Address [National survey of state universities], p. 101-8. 5. David Kinley: Address [Need of increased revenues for state universities], p. 126-34.

882. Borden, Fanny, *comp.* A list of references on college and university government and administration, 1819-1920. Poughkeepsie, N. Y., Vassar college, 1921. 39p. 12°. (Vassar college bulletin, vol. X, no. 3, May 1921)

883. Brown, Elmer E. Too many college students. *North American review*, 213: 743-52, June 1921.

Concludes that we do not have too many college students at the present time, and that the point of saturation in this regard is still remote.

884. Brown, Rollo Walter. Educational unleveling. Harper's magazine, 142: 728-36, May 1921.

Writer is professor of rhetoric and composition in Carleton college, Minnesota. He says that present methods of college instruction, in being adapted to the less efficient students, are unjust to the students of ability. In order to fit itself for the training of leaders the colleges must give up present methods of advertising, quantitative standards, and pseudo-democracy and free itself from provinciality.

885. Chapman, J. C. The failure of the college. School and society, 13: 511-17, April 30, 1921.

Two mistakes of college administration are the failure of the college to recognize the existence of the heterogeneous student body and the failure of college leaders to create in the student body a proper respect for learning.

886. Chicago association of commerce. Special committee. Report and recommendations; special committee of the Chicago association of commerce on the conditions and affairs of the University of Illinois, Urbana-Champaign, Ill. [Chicago, 1921] 16p. 8°.

William P. Sidley, chairman.

887. Dunham, James H. A new orientation for the graduate school. Educational review, 61: 410-28, May 1921.

Discusses principally the training of the teacher as one of the vital functions of the graduate school. Also argues for centralization of graduate work within a single zone.

888. Foster, F. M. University government by constitution. School and society, 13: 572-77, May 14, 1921.

The author outlines a form of government for a university which he thinks to be reasonable and democratic.

889. George Washington university, Washington, D. C. Proceedings of the centennial celebration of George Washington university, February 19-26, 1921, and general university information. [Washington, D. C., The University, 1921] 94p. front. illus. 8°. (On cover: George Washington university bulletin, vol. xx, no. 1)

890. Hopkinson, Sir Alfred. Oxford fifty years ago. Contemporary review, 119: 509-18, April 1921.

An historical and social study of Oxford university in the seventies; old customs and undergraduate life.

891. Kolbe, P. B. The junior college and municipal universities. School and society, 13: 451-56, April 16, 1921.

Delivered before the first annual meeting of the American association of junior colleges, Chicago, February 16, 1921.

892. Koos, Leonard V. Where to establish junior colleges. School review, 29: 414-33, June 1921.

Says that the public junior colleges will eventually come to draw more largely than they have from outside the immediate community which they serve. With the acceptance of the junior-college idea and the provision of dormitories, the local character of the junior college will change.

893. Poteat, W. L. The re-organization of higher education. Baptist education bulletin, 2: 7-11, April 1921.

Annual presidential address before the Southern Baptist education association.

894. Street, G. S. Oxford; a thought or two. Nineteenth century, 89: 819-24, May 1921.

Effect on Oxford life of women students.

895. Technology's war record; an interpretation of the contribution made by the Massachusetts institute of technology, its staff, its former students and its undergraduates to the cause of the United States and the allied powers in the Great War, 1914-1919. Published by the War records committee of the Alumni association of the Massachusetts institute of technology. [Cambridge, Mass., The Murray printing company, 1920] 747p. front. (port.) illus. 4°.

896. Williams, Frankwood E. Mental hygiene and the college student. *Mental hygiene*, 5: 288-301, April 1921.

Effects of emotional life in the student. Says that the emotions as well as intellect and mental hygiene as well as physical health must be made a part of the educational program.

897. Woodbridge, Frederick J. E. After thirty-five years; a freshman of '85 to a freshman of to-day. *Atlantic monthly*, 127: 721-31, June 1921.

Discusses the radical and far-reaching differences between higher education at present and the college education of a generation ago. The task of college students is progressively to develop, by working with what we are and what we have, the steady devotion to American society.

SCHOOL ADMINISTRATION.

898. Pratt, O. C. Problem of school finance. *Intermountain educator*, 16: 344-50, April 1921.

899. Walter, Arthur. School finances of Monterey county, California, and the crisis in education. [Salinas, Cal., 1921] 30p. incl. diagrs. 8°.

SCHOOL MANAGEMENT.

✓ 900. Buckingham, B. R. An experiment in promotion. *Journal of educational research*, 3: 326-35, May 1921.

An experiment tried in the high schools of Springfield and Decatur, Illinois. Deals with a scheme of provisional promotion.

✓ 901. Davis, C. O. Duties of high-school principals. *School review*, 29: 337-50, May 1921.

His task is to formulate policies, suggest modes of procedure for executing them, lead his assistants into new realms of thought, and guide and co-ordinate individual and group efforts.

✓ 902. Minor, Ruby. A "case" study of supervision. *Educational administration and supervision*, 7: 214-54, May 1921.

Contains a description of the recitation; a report of the conference between supervisor and teacher in conversational form; and a summary of the chief points where skill was shown.

✓ 903. Paton, J. L. Punishment, corporal and otherwise. *Journal of education and School world* (London), 53: 357-59, June 1921.

904. Stockton, J. L. The overcrowded elementary-school course of study. *Elementary school journal*, 21: 678-87, May 1921.

Elimination and reorganization of subjects which diminishes their number and which takes account of "cumulative effect," correct spiral order and stages of mental growth, are the remedies for overcrowded course of study.

✓ 905. Swartz, John. The advertising page in school work. *Progressive teacher*, 27: 18-21, April 1921.

Supt. Swartz advocates the use of the advertising page to arouse interest and illustrate subjects taught in elementary and high schools.

906. Wagner, Charles A. Common sense in school supervision. Milwaukee, Wis., The Bruce publishing company [1921] 204 p. 12°.

This work proposes to produce two definite results: First, interest, sympathy, and enthusiasm for the right kind of supervision; second, clearness and adequacy of perception of the relations discussed.

SCHOOL BUILDINGS AND GROUNDS.

907. District of Columbia. Board of education. Special report on schoolhouse accommodations submitted to the Board of education of the District of Columbia by the superintendent of schools. [Washington, 1920] 71 p. 8°.

908. Donovan, John J. *and others*. School architecture; principles and practices. New York, The Macmillan company, 1921. xix, 724 p. illus. (incl. plans) f°

This treatise is the joint product of 20 collaborators—school administrators and specialists in the various fields of instruction as well as architects and engineers. The method followed is first of all to describe the organization of the school and its several departments, and then to show how this organization affects the school plan and architecture.

909. Jackson, Edward *and others*. Daylight in the schoolroom. School life, 6:1-2, 11-12, May 1, 1921.

Report of subcommittee on lighting and conservation of vision in schools to the Joint committee on health problems in education of the National council of education and the Council on health and public instruction, American medical association.

910. Yale memorial quadrangle and Harkness tower. Architecture and building, 53:35-38, May 1921. Also 7 pages of plates, and cover design.

Describes and illustrates the new memorial quadrangle at Yale university, New Haven, Conn.

SCHOOL HYGIENE AND SANITATION.

911. Curtis, Robert D. Standards and methods for health work among children of pre-school age. Modern medicine, 3:244-47, April 1921.

SEX HYGIENE.

912. Curtis, Henry S. Education in matters of sex. Pedagogical seminary, 28:40-51, March 1921.

Discusses sex education in the home, elementary and secondary schools, the college, normal school, and medical college. Recommends the employment of a competent specialist in sex instruction, either in connection with the city health department or with the schools, who would keep in touch with the moral conditions in the city and the schools, give instruction to the students of the high schools, and organize courses for parents in the evening.

913. Galloway, Thomas W. The responsibilities of religious leaders in sex education. Social hygiene, 7:139-57, April 1921.

An address delivered before the department of theological seminaries, Religious education association, Pittsburgh convention, 1920. Discusses the subject of sex education, and the problems relating thereto that should be considered in seminary courses.

914. Wembridge, Harry A. A new emphasis in social hygiene education. Social hygiene, 7:159-80, April 1921.

PHYSICAL TRAINING.

915. Barry, Thomas J. Measuring results of training in physical education in an elementary school. American physical education review, 26:119-26, March 1921.

The experiment of the Thomas N. Hart all-boys' elementary school of Boston in attempting to measure the efficiency of its physical training.

916. Capper, Arthur. Universal physical education is essential. Nation's health, 3: 280-81, May 1921.

Discusses federal and state cooperation in promoting physical education; outlines the objects of the national bill for physical education, introduced in Congress by Representative Fess and Senator Capper.

917. Hetherington, C. W. Special objectives of physical education with relationships to public health. American journal of public health, 11: 520-28, June 1921.

Physical education has been shifted from the home to the school so recently that it needs interpretation.

918. Sundwall, John. Health education and activities in colleges and universities. American physical education review, 26: 164-71, April 1921.

Address given before the Council of public health and legislation, American medical association, Chicago, March 5, 1920.

The colleges and universities must accept their share of responsibility and do their part in the physical regeneration of America.

919. ——— Interrelationship between physical education and students' health service. American physical education review, 26: 172-79, April 1921.

Outlines the historical development of physical education and the students' health service movements, with their aims and activities.

PLAY AND RECREATION.

920. Camp, Walter. Training for sports. New York, C. Scribner's sons, 1921. 191p. front., plates. 12°. (School, college, and active service athletics)

921. Einert, Margaret. The rhythmic dance book. London, New York [etc.] Longmans, Green and co., 1921. 96p. front., plates. 12°.

SOCIAL ASPECTS OF EDUCATION.

922. Edman, Irwin. Human traits and their social significance. Boston, New York [etc.] Houghton Mifflin company [1920] xi, 467p. 12°.

This book is intended to serve as a text in social psychology, and to clarify the student's understanding to serve as a text in social government and industry by imparting a knowledge of the human factors which they involve. It gives a bird's-eye view of the processes of human nature, from man's simple inborn impulses and needs to the deliberate activities of religion, art, science, and morals.

923. McDougall, William. The group mind; a sketch of the principles of collective psychology with some attempt to apply them to the interpretation of national life and character. New York and London, G. P. Putnam's sons, 1920. xxii, 418p. 8°.

924. Myers, J. S. Student social life. School and society, 13: 541-47, May 7 1921.

An exposition and explanation of certain phases of educational life and suggestions for the improvement of conditions.

925. Steiner, Jesse F. Education for social work. American journal of sociology, 26: 744-66, May 1921.

Discusses the social-work laboratory; recent developments in the preparation for social work; and the social work clinic, the latter has to do with social adjustments. Its activities comprise social work with groups, and social work with communities.

926. Williams, J. T. Education in recent sociology. Education, 41: 639-49, June 1921.

Third paper of series. The data for this study are based on A. J. Todd's "Theories of social progress."

MORAL AND RELIGIOUS EDUCATION.

927. American Baptist publication society. Week-day religious educational division. Week-day religious education; a survey of the situation . . . [Philadelphia, 1921] 22p. 8°. ([Publication] no. 1)
928. Behan, Warren P. Correspondence courses for non-collegians. Religious education, 16:147-57, June 1921.
Correspondence courses for the ministry.
929. Cope, Henry F. The professional organization of workers in religious education. Religious education, 16:162-67, June 1921.
930. Mackinnon, M. C. The church cinema in operation; a Canadian church and its new ally—the inside story. Educational film magazine, 5:12-13, June 1921.
To be concluded in July issue.
Describes the use of the cinema by the Hallville Presbyterian church, Mountain, Ontario, Canada.

MANUAL AND VOCATIONAL TRAINING.

931. Allen, Frederick J. A guide to the study of occupations; a selected critical bibliography of the common occupations with specific references for their study. Cambridge, Harvard university press; London, H. Milford, 1921. 183p. 8°.
932. Anderson, Frank V. The evolution of workers' education. Educational review, 61:384-88, May 1921.
Says that the labor movement of to-day tends to place its faith in schools supported and administered by the trade unions.
933. Brewer, John M. Should the schools teach labor problems? Educational review, 61:399-409, May 1921.
Makes a plea for a better understanding of the need for and the process of education in industrial problems in public schools.
934. Gompers, Samuel. The workers and education. Educational review, 61:381-83, May 1921.
Says that the human side of production is only now being appreciated. Education must have this point in view in training workers as well as directors of work.
935. Mitchell, Broadus. Helping workers to think. Educational review, 61:389-98, May 1921.
Discusses an experiment in Baltimore, Md., in conducting a labor college.
936. Roehl, Louis M. Rope work. Milwaukee, Wis., The Bruce publishing co. [1921] 47 p. illus. 8°.
For use in instructing farm boys in rope work in agricultural schools and elsewhere.
937. Snedden, David, ed. Vocational home-making education; illustrative projects. New York city, Teachers college, Columbia university, 1921. 149 p. 8°.
938. Vocational education in agriculture, trades and industries, commerce, and home economics. Vocational summary, 3:170-73, March 1921.
The Vocational education act of 1917 and the Fess amendment.
939. Withrow, James B. The entrance of industry into education. Educational review, 61:369-80, May 1921.
Discusses the educational activities of various large manufacturing concerns. Says that the advent of industry into education will furnish one relief to overcrowded colleges, especially technical schools.

VOCATIONAL GUIDANCE.

- ✓ 940. **Brewer, John M.** Guidance in the high school with special reference to college entrance. *School review*, 29: 434-43, June 1921.

Says that positive and affirmative work in the matter of selection can be done in the high school, provided the selection and classification are always understood as tentative and do not mean radical separation of children.

COMMERCIAL EDUCATION.

941. **Power, Ralph L.** Degrees in commerce and business administration. *Education*, 41: 632-35, June 1921.

Says that "the day of the *collegiate* business school is here, with its requirements for entrance and graduation as standard as the college of liberal arts."

PROFESSIONAL EDUCATION.

LAW.

942. **Leaming, Thomas.** The study of law in England. *American law school review*, 4: 627-32, May 1921.

MEDICINE.

943. **Gillett, Harriet M.** The future of teaching in schools of nursing without university relationship. *American journal of nursing*, 21: 546-51, May 1921.

944. **National league on nursing education.** Committee on education. Preliminary report on university schools of nursing. *American journal of nursing*, 21: 620-29, June 1921.

Discusses stages in the development of university education for nurses (types of courses already organized); the main arguments in favor of establishing schools of nursing in universities; what standards must be met to admit any professional school or department to university status, etc. To be continued.

945. **Smith, W. H.** Adequate medical service for a community. *Journal of the American medical association*, 76: 1055-62, April 16, 1921.

Discusses the problems of medical teaching, preventive medicine, diagnosis and treatment. Gives a résumé of the efforts at standardization of hospitals.

946. **Ward, Robert De C.** Instruction in climatology. *Boston medical and surgical journal*, 94: 477-79, May 12, 1921.

The relation of climate to the treatment of diseases.

ENGINEERING.

947. **Society for the promotion of engineering education.** Proceedings of the twenty-eighth annual meeting held at the University of Michigan, Ann Arbor, Mich., June 29-July 2, 1920. Vol. 28. Pittsburgh, Pa., Office of the secretary, 1920. 389p. 8°. (F. L. Bishop, secretary, Pittsburgh, Pa.)

Contains: 1. A. M. Greene: Requirements: Coöperation between preparatory schools, colleges and the industries as viewed from the standpoint of the educator, p. 28-40. 2. R. D. Chapin: Coöperation between education and industry from the viewpoint of the manufacturer, p. 41-51. 3. I. N. Hollis: Engineering societies and engineering education, p. 80-121. 4. F. N. Newell: Pay of engineering educators, p. 152-74. 5. H. B. Shaw: Coöperation between engineering schools and the utilities, p. 185-201. 6. E. F. Coddington: An experiment in the teaching of calculus, p. 206-18. 7. W. H. Timble: A coöperative course in electrical engineering conducted by Massachusetts Institute of technology and general electric company, p. 250-68. 8. S. A. Harbarger: The qualifications of the teacher of English for engineering students, p. 298-306. 9. M. L. Burton: What must the colleges do? p. 370-83.

948. **Hammond, John Hays.** The engineer. New York, C. Scribner's sons, 1921. 194p. 16°. (Vocational series.)

949. **Nichols, Ernest F.** [Technical education.] *Science*, n. s. 53: 523-27, June 10, 1921.

Inaugural address as president of the Massachusetts institute of technology.

950. **Walters, Raymond.** Scholarship and eminence in engineering. *Engineering education*, 11: 361-76, April 1921.

A study of the scholastic training of a group of eminent engineers of the United States.

CIVIC EDUCATION.

951. **Hamilton, J. G. de R. and Knight, E. W.** Education for citizenship. *Historical outlook*, 12: 197-208, June 1921.

Conclusions based on close observation concerning principles and practices of army education.

952. **Bugg, Harold.** Needed changes in the committee procedure of reconstructing the social studies. *Elementary school journal*, 21: 688-702, May 1921.

A criticism of the work of the Joint committee on history and education for citizenship of the American historical association and the National education association.

AMERICANIZATION.

953. **Berkson, Isaac B.** Theories of Americanization; a critical study with special reference to the Jewish group. New York city, Teachers college, Columbia university, 1920. viii, 226p. diagr. 8°. (Teachers college, Columbia university. Contributions to education, no. 109.)

Thesis (Ph. D.)—Columbia university.

954. **Daniels, John.** America via the neighborhood. New York and London, Harper & brothers, 1920. 462 [1] p. plates. 12°. (Americanization studies. Allen T. Burns, director.)

955. **Davis, Michael M.** Immigrant health and the community. New York and London, Harper & brothers, 1921. 481 [1] p. front., illus. 12°. (Americanization studies. Allen T. Burns, director.)

956. **Massachusetts. Department of education.** Proceedings of the state conference on immigrant education in Massachusetts industries. Under the joint auspices of the Massachusetts State Department of education and the Associated Industries of Massachusetts, Plymouth, Mass., September 16, 17, 18, 1920. Boston, Mass., 1920. 124p. 8°. (Massachusetts. Bulletin of the Department of education. vol. V, no. 6, whole no. 32, November 1920)

957. **Newman, Minnie M.** The teaching of English and the foreign-born woman. New York city, The Womans press, 1920. 45p. 16°. (Foreign community series)

958. **Speck, Peter A.** A stake in the land. New York and London, Harper & brothers, 1921. xxx, 266p. plates. 12°. (Americanization studies. Allen T. Burns, director)

Introduction by Richard T. Ely, p. xv-xxvi. Part I of this book deals with settlement of immigrants on the land. Part II deals with rural educational agencies, private schools, immigrant churches, public schools, education of adult immigrant settlers, library and community work.

959. **Woellner, F. P.** The teaching of history as a factor in Americanization. *School and society*, 13:585-91, May 21, 1921.
Delivered at Conference on Americanization and citizenship, Atlantic City, February 1921.

EDUCATION OF SERVICE MEN.

960. **Sylvester, C. W.** Vocational rehabilitation of disabled ex-service men. *Visual education*, 2:13-21, 52, May 1921.
A detailed account of how the United States is paying her draft of honor to her disabled ex-service men by removing their handicap through vocational training.

EDUCATION OF WOMEN.

961. **Coolidge, Calvin.** Enemies of the republic. Are the "reds" stalking our college women? *Delineator*, 98:4-5, 66-67, June 1921.
First of a series of three articles written by the vice-president of the United States "in the interest of our country's common weal."
962. **Dewar, Katharine C.** The girl. With a chapter on "Welfare work" by Gladys H. Dick. London, G. Bell and sons, ltd., 1920. 191 p. 12°. (Half-title: The social service library. IV.)
963. **Benauld, Charlotte.** Jeunes filles d'Amérique. *Revue universitaire*, 30:287-99, April 1921.
Based on the experience of the writer as a French visiting teacher employed in the Hunter college of the city of New York. She analyzes the characteristics of the student body, comments on American methods of teaching, and pays a tribute to the features of confirmation of the will and development of the social sense in American education.
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SUGGESTIONS FOR THE
REORGANIZATION OF THE SCHOOLS
IN CURRITUCK COUNTY, NORTH
CAROLINA

LA 341 - Currituck co.

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INTRODUCTORY STATEMENT.

This study of conditions of the school system of the County of Currituck, with suggestions for its improvement, is made at the request of the county board of education. It is inspired by the desire of the board to adopt a consistent policy as to buildings, organization, course of study, supervision, and instruction, which provides for present and future needs of the children and gives due consideration to modern educational standards and ideals.

It is recognized that it may not be possible to meet immediately all the recommendations. But it is possible to make gradual changes in harmony with the accomplishment of the ultimate plan for an efficient school system, and to avoid useless expenditure of money in temporary expedients which retard rather than further educational progress.

This inquiry aims to consider the system of schools for white children as it is and as it should be, in order to accord with progressive ideas and to offer the best possible educational advantages to the greatest number of children. It recognizes obstacles with which the county board must contend and aims to recommend the best and most economical means for improvement.

SUGGESTIONS FOR THE REORGANIZATION OF THE SCHOOLS IN CURRITUCK COUNTY, N. C.

GENERAL CONDITIONS.

Currituck County is located in the northeastern part of North Carolina, on the Atlantic coast. It is a peninsula, triangular in shape, 40 miles long, 14 miles wide at the north end, narrowing to 5 miles in the southern portion. It contains about 276 square miles. Besides the mainland, it includes several islands. Currituck Sound and the North River bound it on three sides. It joins Virginia on the north.

The soil is fertile; the leading crops are soy beans, cow peas, corn, potatoes, melons, and cotton. Potatoes particularly have brought splendid returns during the last few years. There are 984 farms in the county. The population is entirely rural. Practically all the people are engaged in farming or fishing. Hunting, while the regular occupation of only a few of the people, draws many to the county for recreation. A number of hunting clubs are located along the coast or on the islands. Currituck is the county seat, and Moyock the largest trading center; neither of these villages contains more than a few hundred people. The majority of the white farmers own their farms.

The county is old in history and tradition. Only a short distance to the south is Roanoke Island, where Raleigh made the first white settlement in the United States, in 1585, and where Virginia Dare was born. The white population is almost entirely of native birth and parentage. Most of the people are descendants of families who have made their homes in the county for many generations.

The total population is about 7,000, of which 60 per cent is white. The school census for 1919-20 was 2,748, of whom 74 per cent, or 2,080, were enrolled in school, and 72 per cent, or 1,494, in average daily attendance. The school population, enrollment, and attendance have not changed materially during the past five years.

ADMINISTRATION OF THE SCHOOLS.

Currituck County conforms with the North Carolina plan in the administration of its schools. Nominally the county unit of organization prevails. There is a county board of education elected by the legislature, with considerable power and important duties, one of which is selection of the county superintendent. The county board also has general supervision over the schools of the county, the power to veto the selection of teachers, to locate buildings, to change dis-

strict lines, and, by recent legislation, to consolidate school districts. Until this was enacted the county board could not carry out a program for consolidating the schools and reorganizing the system. Six districts which failed to levy a special tax have prevented this, with the result that actual conditions resemble more nearly those which prevail under the district unit plan of administration. In the special-tax districts school buildings are better, the term longer, and salaries of teachers higher than in the nontax districts. In the latter there are only such school facilities as satisfy the minimum requirements prescribed by State law and are furnished by State and county funds.

NUMBER OF SCHOOLS.

The white children of the county are taught by 48 teachers. They attend school in 20 school buildings as follows: Nine, one-teacher; four, two-teacher; four, three-teacher; one, four-teacher; one, five-teacher; and one, nine-teacher building. Of these, 15 schools have a school term of six months only; 2, seven months, the additional one month financed by private subscription; the three consolidated districts levy a special tax large enough to provide for a term of eight months.

In four of the schools some work of secondary grade is done. There is one accredited high school at Poplar Branch. At two other schools, Moyock and Currituck, four years' work of secondary grade is offered, but only one teacher in each school devotes full time to it. The school equipment is very meager, and there are practically no library facilities in the county. Poplar Branch has a few reference books and some laboratory equipment. The organization follows the North Carolina plan of seven elementary and four high-school grades.

SUPPORT.

It is apparently the intent of the North Carolina law that schools should be supported from State, county, and district funds in about equal proportion; that is, each contributing approximately one-third the cost of the school. But this ideal is not followed fully in the management of the schools of Currituck County. The budget for the present school year indicates that, of the total expenditure (exclusive of borrowed money), the State is supplying about 59 per cent, the county 26 per cent, and the local districts 15 per cent.

As compared with the county and local district the State's support is generous. The State is by no means contributing too much. North Carolina is rich. It ranks eighth among the 48 States in the payment of direct Federal taxes. It has, by inference at least through its State laws, adopted the policy that education is a State function and has assumed certain responsibilities toward carrying this out. The county and especially the local district are contribut-

ing entirely too little. They are not assuming the proportion of total support contemplated by the law. The total amount spent for education is therefore altogether inadequate.

For the year 1919-20 the per capita cost based on enrollment was \$11 per year for each child enrolled in elementary and high schools. The average cost in the United States for 1918 was \$36.62, varying in the different States from approximately \$10 in North Carolina to \$76 in Montana. During the years 1919 and 1920 expenditures in schools throughout the country increased materially. While complete data are not available, returns so far received by the Bureau of Education, as well as a study of certain communities made by the Russell Sage Foundation indicate that the increase in 1919 over that of 1918 was about 14 per cent and that of 1920 over that of 1919 about 33 per cent. If this estimate is correct, the comparison for 1920 is about as follows: The United States as a whole, \$55.56, varying from \$15.16 to \$115.25 as among the 48 States; for Currituck County, \$11—very far below the average for the United States and below the average for North Carolina.

Next year the present limitation on county millage will be removed and the county tax can be increased. It is impossible to tell at this time whether the amount received from the State will be larger or not. But in any case the local district can appropriate more money and should at least match the county in the amount of its contribution.

SCHOOL BUILDINGS.

The need for more money is apparent in the general appearance and equipment of the school buildings. With the exception of those at Poplar Branch and Currituck, they are either too small or otherwise unfit for schools. Even these two are not entirely satisfactory. According to the Strayer rural-school building score card, neither scores more than 650 on a scale of 1,000 points. Water for drinking and washing, some means of fire protection, and sanitary toilets are needed badly in both. The heating plant in Currituck School, not now used, should be repaired. Both need cement walks and other similar improvements. There is also need either for a good janitor or other definite provision for keeping rooms clean and in a better state of repair.

In all of the others, especially the one-room buildings, various insanitary and unhealthful conditions menace the safety of the children. In a number of schools there are unsupported, ill-fitted joints of stovepipe, unprotected chimneys, and other careless arrangements which offer constant danger from fire. Five schools have no toilets, and several others only one. All toilets are in bad condition. Practically all of the schoolrooms are either unnecessarily large or too small to accommodate the children. In the school buildings

having more than one room thin partitions, some reaching only half way to the ceiling, and in one case curtains, separate groups of children. Even reasonable order and the quiet necessary for school work are not possible in such conditions. There are few cloakrooms, no closets, many double desks, and homemade benches. Lighting space is only one-tenth or one-twentieth of floor space in several rooms, instead of one-fourth or one-fifth, as it should be. Windows are on four sides in most of the one-room buildings; properly placed windows and enough light are provided only in the Currituck School. Nearly all buildings are in poor condition. They are rarely scrubbed or carefully cleaned.

There is little equipment beyond the bare necessities. There are no libraries or supplementary books for reading, history, or geography, and no illustrative material in the elementary schools; there is very little blackboard space and that of poor quality. In many cases blackboards are plain boards with paint almost or entirely worn off. Only two schools have any playground equipment. There are pianos in only four.

THE TEACHERS.

SALARIES.

The salaries paid white teachers in the county are shown in Table 1. They vary from \$390 to \$900 per year, salaries of principals not included. Teachers who do not live at home pay board at the rate of \$30 or \$35 per month. The salaries paid for six or eight months must cover living expenses for the 12 months of the year, as well as expenses for books, travel, attendance at summer schools, and other means of self-improvement. Prepared teachers can not be expected to work for salaries so small. There are, of course, other considerations, such as satisfactory living places, good working conditions, proximity to one's home, and the like. A few teachers will remain in the county because their homes are in it or near by, but the majority need the inducement of better salaries as well as more satisfactory working conditions.

TABLE 1.—Salaries of white teachers in Currituck County.

School term, in months.	Number of teachers.	Salary per month.	Salary per year.	School term, in months.	Number of teachers.	Salary per month.	Salary per year.
6	3	\$65	\$390	7	1	\$85	\$595
6	4	75	450	7	3	95	665
6	1	80	480	8	2	78	624
6	7	85	510	8	4	85	680
6	2	90	540	8	2	90	720
6	3	95	570	8	1	95	760
6	2	100	600	8	3	100	800
6	1	105	630	8	2	105	840
6	1	125	750	8	1	110	880
6	1	150	900	8	12	200	¹ 1,600
6½	1	95	617½	8	1	225	² 1,800

¹ Principals, \$1,600.

² Principals, \$1,800.

TABLE 2.—Per cent of teachers receiving certain salaries.

Annual salary.	Number of teachers receiving.	Per cent receiving.	Cumu- lative per cent.
\$400 or less.....	3	7	7
\$400 to \$500.....	5	11	18
\$500 to \$600.....	19	42	60
\$600 to \$700.....	7	15½	75½
\$700 to \$800.....	7	15½	91
\$800 to \$900.....	4	9	100
Total.....	45	100	.....

CLASSROOM WORK.

Teachers of the county give, on the whole, the impression of dignity, pleasing personality, and interest in their work. They lack definite preparation, unity of purpose, and well-defined standards of method and accomplishment. The majority of teachers are fairly well qualified as to general education, but few have professional preparation. Table 3 shows this in detail.

Of the 48 white teachers (including 3 principals) employed, 9 are graduates of normal schools; 1 has three years of higher education; and 5 have been graduated from college. More than half the teachers, 54 per cent, have no training in addition to high-school work, and about one-third of these, or one-sixth of the total number, have not completed a full four-year high-school course.

Of the total number of teachers in the county, 18 per cent are teaching for the first time; 28 per cent have had no experience or only one year of experience before coming into the county; the remainder have from two to four or more years of experience in teaching.

TABLE 3.—Education of teachers in Currituck County.

Number of teachers having—	
Elementary education only.....	1
One year of high-school training.....	1
Two years of high-school training.....	2
Three years of high-school training.....	4
Four years of high-school training (graduates).....	18
One year in addition to high-school training.....	7
Two years in addition to high-school training (normal-school graduates).....	9
Three years in addition to high-school training.....	1
Four years in addition to high-school training (college graduates).....	5
Total.....	48

The length of time the teachers remain in the county and in the school is important, as well as their preparation and experience. At

the present time 82 per cent are teaching for the first time in their present positions. A few are teaching the second year, and only one has spent more than three years in the school in which now employed. This annual turnover of the teaching corps—for the condition described is not confined to the present year, as examination of the records show—is perhaps the worst feature governing the efficiency of teaching in the county. The turnover is always important, but especially so when close supervision is impossible. There is continuity of neither practice nor procedure; nor is it possible for teachers who change every term of six or eight months to become familiar with the needs of the school and the progress of the children. Regardless of any consideration of the qualifications of teachers, the change in itself is a distinct loss to the progress of the children. It tends to make the county schools training schools for more or less inexperienced or indifferent teachers. Those who are successful soon leave and give the benefit of their experience to other communities.

THE SCHOOL TERM.

The school term varies in length from six to eight months, with an average of 127 days for the white schools of the county. In 15 schools the term is six months, in 2, seven; and in 3, eight. The special district levy is used for the purpose of paying teachers' salaries for the additional one or two months when held and for supplementing the regular salary paid by the State and county for the full term. This use of the funds is commendable, but the amount raised is quite inadequate. The standard school term should not be less than nine months. Several States now have an average term of 180 days. In North Carolina 43 counties had a longer average term than Currituck County in 1918. The average for the cities of the State was 165 days, nearly two months longer than in Currituck County.

SCHOOL ATTENDANCE.

The school census, enrollment, and attendance for five years preceding the present are given in Table 4. It shows little change in the school population and practically no improvement in the success with which the schools are enrolling children who should be in school and keeping them in regular daily attendance. Yet this is one test of the real efficiency of the school system, and measures the interest of the people in their schools and their confidence in the value of education. There should be a continuing increase in the percentage of children of school age who enroll in school and in the percentage of this number who are in average daily attendance. Unless this is true the system is not improving as it should be. Unless the majority

of children who should be in school really attend regularly, much of the money spent to provide facilities for them is wasted. The accompanying diagram gives an indication of this irregularity in Currituck County.

PUBLIC SCHOOL REGISTER

In the above diagram the large squares represent absence, and the smaller squares represent cases of tardiness.

TABLE 4.—*School population, enrollment, and attendance for Currituck County for five years.*¹

Years.	Census, 6 to 21 years.	Enroll- ment.	Average attend- -ance.
1916.....	3,011	2,447	1,862
1917.....	3,097	2,381	1,576
1918.....	2,942	2,095	1,306
1919.....	2,798	2,070	1,298
1920.....	2,748	2,080	1,494

¹ See also Table 5.

TABLE 5.—*School census, enrollment, and attendance for five years (arranged according to present and proposed districts).*

Districts.	1916			1917			1918			1919			1920		
	Census.	Enrollment.	Attendance.	Census.	Enrollment.	Attendance.	Census.	Enrollment.	Attendance.	Census.	Enrollment.	Attendance.	Census.	Enrollment.	Attendance.
Shawboro.....	33	13	12	71	70	43	.....	.....	.....	.....	.....	.....	.....	.....	.....
Griggsby.....	40	32	21	33	22	17	35	26	17	28	28	18	31	20	16
Corner Gum.....	58	49	24	63	38	21	55	33	13	65	45	25	68	43	29
Indian Town.....	66	57	35	71	70	43	67	68	42	72	59	35	82	67	41
Total.....	197	151	92	238	200	124	157	127	72	165	132	78	181	130	86
Currituck.....	136	92	74	111	89	62	114	77	56	113	86	59	100	86	62
Tulls.....	27	23	17	27	21	13	32	24	19	35	31	13	33	26	20
Belle Island.....	11	10	8	11	9	8	16	13	9	13	11	9	14	11	9
Total.....	174	125	99	149	119	83	162	114	84	161	128	81	147	123	91
Barco.....	36	21	10	43	26	17	45	18	10	32	31	22	32	27	22
Coinjock.....	45	34	26	53	43	31	51	51	44	64	55	32	74	48	39
Church's Island.....	27	32	16	35	23	14	31	18	13	34	20	14	31	29	20
Total.....	108	87	52	131	92	62	127	87	67	130	106	68	137	104	81
Moyock:															
No. 1.....	32	21	18	36	22	17	34	22	14	35	20	14	24	10	9
No. 2.....	69	45	35	72	62	47	73	74	57	84	68	55	76	62	55
No. 3.....	25	12	10	29	15	11	22	10	10	16	16	10	23	17	14
Total.....	126	78	63	137	99	75	129	106	81	135	104	79	123	89	78
Powells Point.....	85	69	51	96	73	52	100	80	52	105	75	45	110	77	60
Harbinger.....	132	100	81	124	116	90	127	115	78	127	100	67	128	134	78
Jarvisburg.....	137	128	74	137	124	64	138	92	49	114	89	40	103	81	52
Total.....	354	297	206	357	313	206	365	287	179	346	264	152	341	292	190
Poplar Branch:															
No. 1.....	29	25	16	25	19	16	26	15	13	26	15	13	25	19	15
No. 3.....	91	82	51	49	31	19	41	17	11	38	18	11	28	20	15
No. 4.....	54	45	31	61	42	32	63	44	35	53	40	30	62	42	30
No. 5.....	.....	112	80	177	158	118	152	152	100	134	135	90	186	142	106
No. 6.....	49	28	18	105	96	68	100	80	42	94	78	43	106	89	74
Total.....	223	292	196	417	346	253	382	308	201	345	286	197	407	312	239
Fruitville or Knot's Island:															
No. 1.....	174	135	76	201	99	74	146	100	71	144	97	74	135	71	50
No. 2.....	20	17	14	18	14	12	15	13	8	14	10	7	13	5	4
No. 3.....	38	36	24	42	32	28	34	23	18	31	26	19	27	26	16
Total.....	232	188	114	261	145	114	195	136	97	180	133	100	175	102	70

An idea of the way children of the county attend school may be obtained from Table 6, which gives the actual number of days each of 498 children attended school during 1919-20. More than half this number, 54 per cent, were in school 100 days or fewer during the year. Only 1.8 per cent of the total number were in school 160 days (accurately 155 to 160 days) or the full term of eight months.

The majority of the 498 children referred to above attended school at intervals throughout the term, continuing to remain on the roll, but attending irregularly. Such irregularity is particularly serious, because the absent child, besides missing work himself, retards the progress of the others in his class. He must either fall hopelessly

behind and go into a lower grade or consume the time of the teacher, receiving special attention to make up the work he has missed.

TABLE 6.—*Number of days attended by each of 498 children during year 1919-20.*

Number of days.	Number of children.	Sums of children from the beginning.	Number of days.	Number of children.	Sums of children from the beginning.
1- 10.....	7	7	110-115.....	38	376
10- 20.....	12	19	115-120.....	26	402
20- 30.....	20	39	120-125.....	14	416
30- 40.....	14	53	125-130.....	11	427
40- 50.....	33	86	130-135.....	9	436
50- 60.....	19	105	135-140.....	6	442
60- 70.....	29	134	140-145.....	10	452
70- 80.....	32	166	145-150.....	12	464
80- 90.....	49	215	150-155.....	25	489
90-100.....	53	268	155-160.....	9	498
100-105.....	36	304			
105-110.....	34	338		498	

The course of study for North Carolina is based on a nine months' term, the standard accepted throughout the country. It is impossible for children to complete in six months the full amount of work prescribed for nine, even if they are present every day. If to the disadvantage of the short term we add irregular attendance so serious that more than half of the children attend school only five months in the year, it is apparent that normal progress through the grades can not be expected. Two years are needed to complete the work of one grade. The result is that a large number of children become gradually more and more over age for the grade in which they belong and drop out at the end of a few years, with little education above the mere ability to read and write a little.

The extent to which this is true is indicated in Table 7, showing the age and grade of 607 children in the schools of the county. Fewer than half the children are of normal age for the grade in which they are enrolled, making the liberal allowance of a two-year rather than a one-year span to the grade.

Normally a child is expected to enter school at 6 years of age and to finish one grade a year. Children in the first grade should be 6 years old, in the second grade 7 years, and so on. Children alike in tastes, inclination, and general development are grouped together, and may easily be dealt with by the teacher in the same or a similar way. Each group can reasonably be expected to finish about the same amount of work in a given time. When, however, the difference in age becomes too great, group work is not feasible and can be done only at the expense of the individuals who make up the class. The table shows that there are children in the first grade ranging from 6 to 12 years of age; in other grades ranging from 8 to 13 years, from 10 to 15 years, from 8 to 17 years, from 11 to 18 years, with a

span of from 5 to 9 years in each group. It is apparent that this condition makes good class work difficult and tends to shorten the school life of many children.

TABLE 7.—*Ages and grades of 607 children in Currituck County.*

Grades.	Ages.														Total.
	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
1.....	43	30	22	8	4	5	1								113
2.....	3	12	19	13	5	3	3								58
3.....		3	15	28	16	9	3	6	6						84
4.....			2	6	17	8	14	9	5	1	2				64
5.....			2	2	10	14	8	6	7	2	4	1			56
6.....					4	3	13	10	11	5	3	4	1		54
7.....							11	18	16	9	7	4			65
8.....							1	4	14	10	9	6	3		47
9.....								1	5	9	10	5	3	1	34
10.....									1	2	5	6	1	1	16
11.....											7	4	5		16
Total.	46	45	60	55	56	42	54	54	65	38	47	30	13	2	607

Total pupils..... 607.
 Number under age..... 19, or 0.3 per cent.
 Number of normal age..... 287, or 47 per cent.
 Number over age..... 301, or 49 per cent.

HOLDING POWER OF THE SCHOOLS.

Table 8 shows how many children are in attendance in each of the grades for every 100 enrolled in the first grade. The rapid decline from the first to the second grade and the continued, though more gradual, decline throughout the grades shows how serious the whole question of attendance is. Apparently, only those children with exceptional ability and opportunity finish the upper grades and high school, while the majority of children in the county are satisfied with the limited education offered in the first few grades. This condition is due in large part to the short term and to the fact that the law concerning compulsory school attendance is not stringently enforced. It also indicates laxity among the people concerning the importance of education, indifferent methods of instruction, and general ineffectiveness of the whole school system.

TABLE 8.—*Number of children in each grade, based on 100 in the first grade.*

	Grades.										
	1	2	3	4	5	6	7	8	9	10	11
Enrolled in Currituck schools, September, 1920.....	100	42	47	45	25	28	22	9	7	3	3
Same, January, 1921.....	100	42	51	40	22	27	21	7	5	2	2
Expectancy survival ¹	100	100	100	90	61	68	54	40	27	17	12

¹ Thorndyke.

THE COURSE OF STUDY.

The course of study quite generally throughout the county consists in following the order of lessons in the textbooks. The same books are used in all schools. Aside from this there is no unity of procedure nor generally accepted standards of practice or accomplishment.

Textbooks are the only source of information and the only working equipment furnished. This means that the rich stores of material in the worlds of nature, literature, history, science, and the like are disregarded in both elementary and high school. Music, art, industrial and manual work, agriculture, nature study, physical education, playground activities, games, and dramatization are entirely ignored in the course.

The high-school courses are of the old classical type; very little science, no home economics, and no agriculture is offered. There are no electives. Neither of the high schools has a good working library nor a reasonable supply of reference books. Training in the use of a library and in ability to use source material and to gather and organize information are therefore neglected in the high school.

At Poplar Branch there are a few books of the kind appropriate for a "circulating" library.

SUPERVISION.

In a rural county like Currituck, with a system of schools not yet so well organized as to run without friction, with a high percentage of relatively unprepared and inexperienced teachers, supervision is of greater importance than administration. However, pressing administrative problems and clerical duties now occupy and probably in the immediate future at least must continue to occupy the time of the superintendent to the exclusion of any possibility of close supervision. There is, therefore, little evidence of professional supervision in the schools of the county. Each school is a separate entity and each teacher a law unto herself, as to organization, discipline, methods, and course of study.

Lack of systematic supervision is apparent in the methods and technique of teaching. Daily programs or schedules showing the order of work for the day were found in only one school. Classes were called and dismissed with no apparent plan or thought-out purpose to be accomplished. Many teachers did not know how many recitations they heard during the day, and had not considered the necessity of distributing time among grades or subjects according to the needs of the children or the importance of the subject. The teachers have no regular schedule but merely call classes and hear recitations, as they happen to remember them, without well-defined plans for the ground to be covered and the time to be spent in doing it. They

use from 5 to 30 minutes in recitation, often giving entirely disproportionate amount of time to some classes to the neglect of others. This results in poor work for the schools and leaves the child with no definite or orderly arrangement of the few facts he happens to remember from the day's work. Satisfactory education is impossible under such conditions.

The appearance of the schoolrooms is another evidence of the need of close supervision. Almost without exception they are disorderly and unclean. Cloakrooms, when there are any, are used for storage of unused and useless articles, and are dusty and dirty. Results from poor facilities are made worse by lack of care and attention to those that are furnished. Sweeping is done at recess periods and without any thought of sanitary requirements. Disregard of the simplest hygienic regulations is general. Whether janitors are furnished or not, the teachers assume little responsibility for the condition of the rooms.

SUMMARY OF SCHOOL CONDITIONS.

1. The people of the county are spending very little money on their schools. More than half the principal expenditure is paid by the State. Only three districts levy a special tax; the others make no effort to improve schools from local funds, but depend entirely on the State and county.

2. The term is far too short to enable children to complete the work of any grade according to the standard prescribed for schools in other parts of the country.

3. Teachers are underpaid and not well prepared. In most cases they remain only one year in a school.

4. The percentage of enrollment and the percentage of attendance are low. Attendance is irregular; compulsory law is not rigidly enforced.

5. Buildings are inadequate and insanitary; they have no modern school equipment.

6. There is no well-organized course of study. That followed is not adapted to the needs of the community and does not engage the interest of the children.

7. High schools are not accessible to many children.

8. There is a high percentage of overage children in all the grades and few complete the full course.

9. Supervision is inadequate.

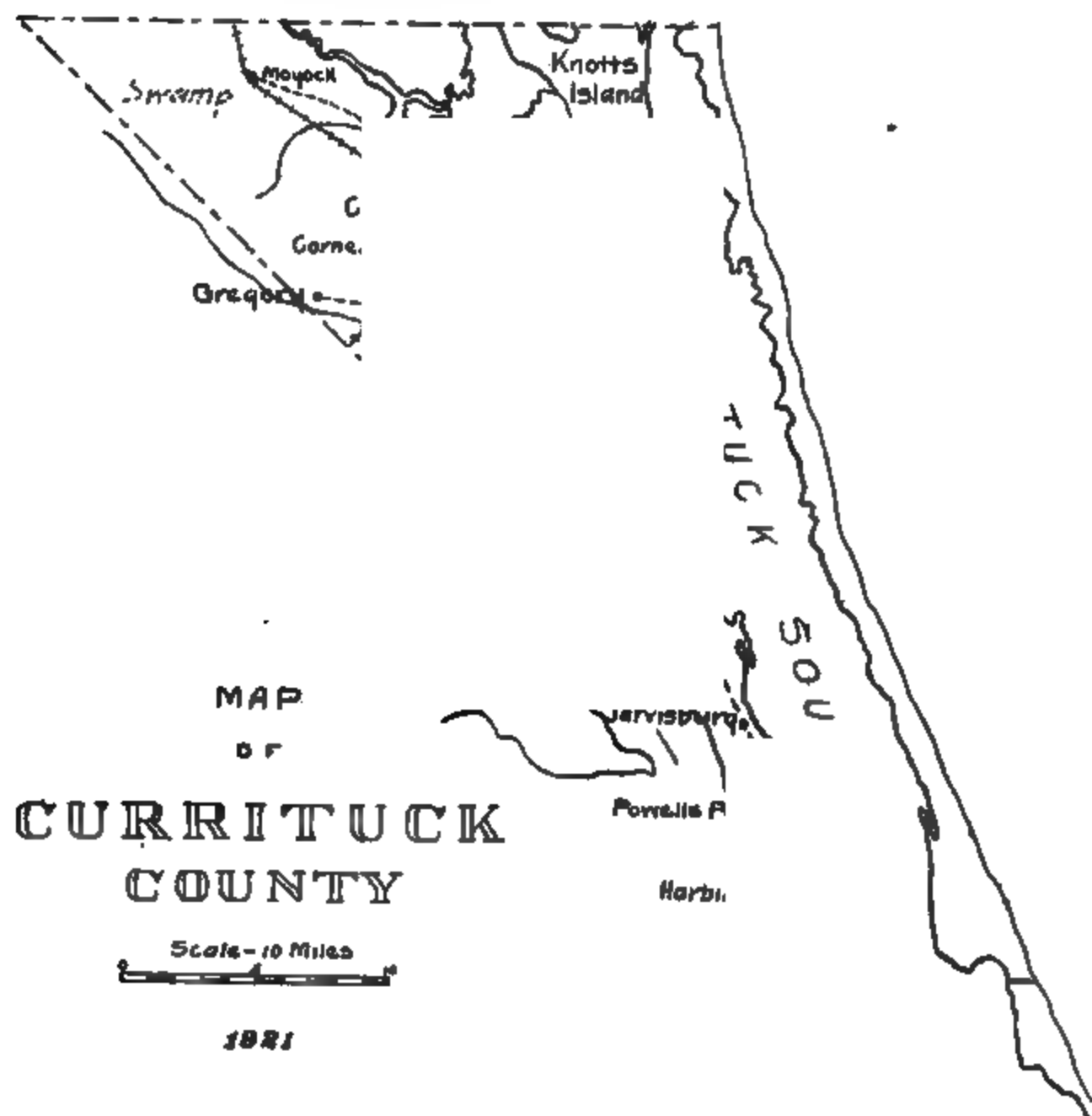
SUGGESTIONS FOR REORGANIZATION.

THE SCHOOLS ON THE MAINLAND SHOULD BE CONSOLIDATED.

The board should immediately adopt a plan for consolidating the schools of the county. There are now few really suitable school

buildings, and the time is favorable to adopt the new plan before additional money is wasted in replacing or repairing buildings now in use.

The shape of the county, long and narrow except at the extreme north end, and the probability that the new system of improved roads will include only the one main road east from Moyock and south from Currituck, necessitate two high schools. In addition



to enlarged buildings at Poplar Branch and Currituck, four new school buildings, six in all, will be needed on the mainland. For the present the schools on the islands in Fruitville township must remain as they are, and while the road is in its present condition the one-teacher school on Churchs Island must be continued. The children attending this should be transported to Coinjock as soon as satisfactory arrangements can be made. All other schools can be consolidated according to the plan outlined and diagrammed.

The diagrams show two successive steps toward complete consolidation. The names used indicate the approximate location of consolidated buildings and are for convenience only. They are not intended to represent the exact location of any building. Diagram I represents the first step.

HIGH SCHOOL DISTRICT A—POPLAR BRANCH.

According to Diagram I (p. 19) the schools now at Powells Point, Jarvisburg, and Harbinger are consolidated in one school building located in a central location to be agreed upon by the board and the people of the three districts. This school should include the elementary and junior high-school grades. Six teachers will probably suffice for the first year. There will be pupils for only two of the junior high-school grades, the seventh and eighth. The course should be so modified that subjects requiring laboratory work or expensive equipment may be given in the senior high school grades. Two teachers working on the departmental plan should be assigned to the junior high school. Through alternation of the work of the two grades and some combination of classes, part of the time of one of the teachers can be given to assist the four teachers assigned to the six elementary grades. To illustrate: The teacher of geography or of mathematics in the seventh and eighth grades should arrange his program so as to have one hour a day to teach these same subjects in the fifth and sixth grades also. Such a division of work would avoid crowding the teacher's time in any of the grades.

The Barco and Coinjock schools are consolidated at a central point; an elementary school is retained at Churchs Island with junior high-school pupils transported to the central school building at Coinjock, in which an elementary and a junior high school is maintained. It is necessary to retain the elementary grades at Churchs Island until the road can be made better. This should be done as soon as possible, since the school building is badly located and unfit for school use. Children in the junior high-school grades are older and can be transported or transport themselves to the consolidated school. With an arrangement similar to that suggested above for Powells Point, five teachers will suffice for this school. The enrollment is small. One teacher can take care of two of the elementary grades with some help in the fifth and sixth grades from the junior high-school teachers.

The school at Aydlott is discontinued and the children in all grades are transported to Poplar Branch.

All the territory above should be included in one district for high-school purpose with the high-school building at Poplar Branch. It is designated in the diagram as High-School District A. This large territory can support a first-class high school. It is not possible

HIGH-SCHOOL DISTRICT B.

In the northern part of the county the one-room schools at Tulls and Belle Island should be discontinued and the children sent to an enlarged building at Currituck. A junior high school, in addition to the six elementary grades, should be maintained here.

The two-teacher school in Shawboro and the one-room schools at Grigsby, Corner Gum, and Indian Town should be consolidated at the most central point, designated on the diagram as Shawboro. Only the six elementary grades should be maintained.

The Moyock district now includes the adjacent territory. A new building and improved high-school facilities are immediate needs, however. Pupils in the junior high-school grades from the Shawboro consolidated territory may attend at either Moyock or Currituck. The county board can fix the boundary lines so that children may attend the school nearest their homes. Few children live as far as 3 miles from Shawboro. If this were made a meeting place for children, and one large truck sent from here to Currituck or Moyock, probably no additional transportation would be needed for junior or senior high-school pupils.

This combined territory should maintain one senior high school located at Moyock or Currituck (the former is designated on the diagram). Probably the latter can be more easily reached by the majority of children in the consolidated district suggested. The tax valuation of the combined territory constituting this high-school district is \$3,300,000. The enrollment is 342.

The second step is shown in Diagram II.

The junior high-school grades at Powells Point and Coinjock are discontinued, and all pupils above the sixth grade attend the central high school at Poplar Branch.

The elementary school at Shawboro is discontinued also, and the district divided so that children may attend at either Currituck or Moyock, whichever is nearer their homes.

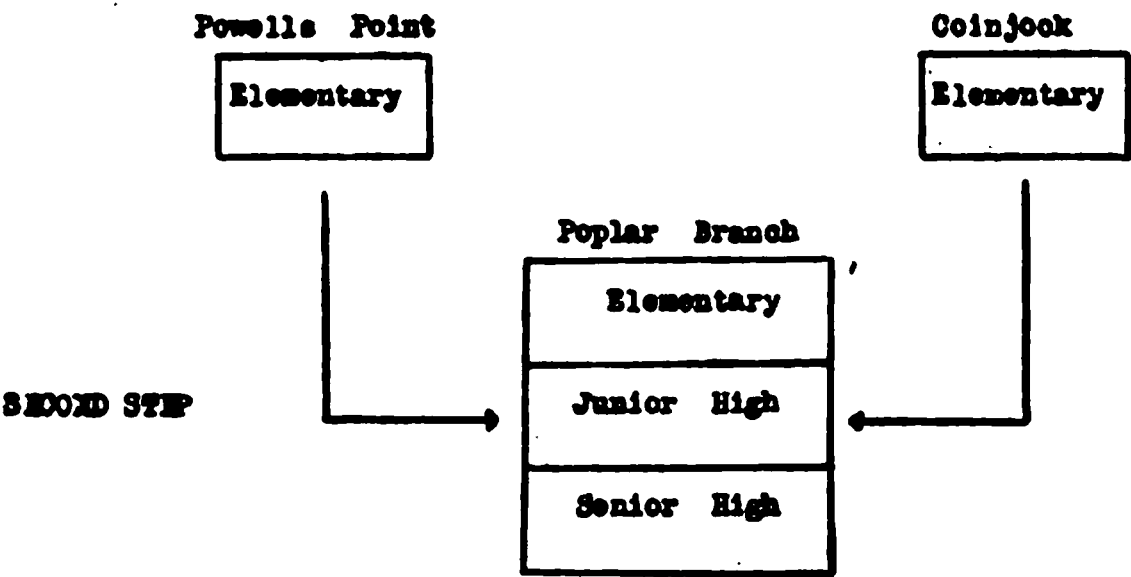
This final complete consolidation will make possible increased efficiency in school work and economy in management. The history of consolidated schools shows in nearly every case that the total enrollment and the number of children who remain and finish the upper grades increase materially; that transportation, given a fair trial, is eminently successful; that roads are improved; and that neither patrons nor children would willingly return to the old system. The people of Currituck, after trying consolidation according to the first step outlined will, it is believed, be anxious to take the additional one, which insures still greater efficiency in the education of the children. As the enrollment in the grades above the sixth continues to increase, the central high-school building can be enlarged

to meet the needs more economically than two buildings. Larger groups make the work more interesting and can be taught effectively with fewer teachers. The rooms vacated by the pupils in the seventh and eighth grades will be needed by the children in the six elementary grades. No space will be wasted.

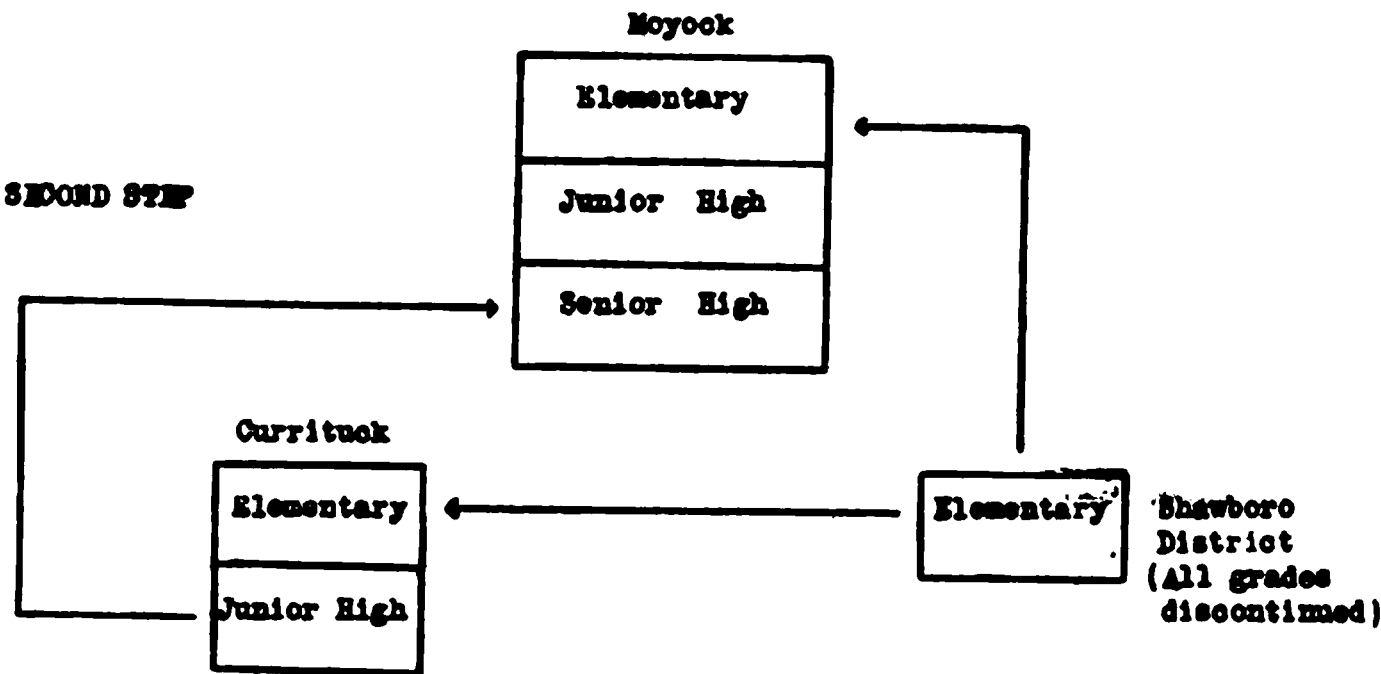
If it were not for the fact that the roads are in bad condition, and there is little prospect of immediate improvement, the final plan

Diagram II. Permanent.

POPLAR BRANCH HIGH SCHOOL DISTRICT -A-



MOYOCK HIGH SCHOOL DISTRICT -B-



Notes: Diagrams I - II.
Each block represents a school building.
Small sections separated by vertical lines represent rooms.
Larger sections separated by horizontal lines represent departments of the 6-3-3 organization.

would be recommended for the first step. Time will be necessary to get good roads. In the meantime the children must not lose the opportunity for an education. If one-story unit buildings, as hereinafter recommended, are built, there will be no loss. Changes can progress more rapidly as prospects for good roads get brighter.

According to the plan the county would be divided into two high-school districts, one with a valuation of \$2,200,000; the other with a

valuation of \$3,300,000. Both districts would be amply able to support schools as recommended, whether combined for all schools or for high-school purposes only.

The best method to pursue in Currituck County is to consider the whole county as one district for the purpose of school support, locating schools as suggested. If this is impossible or inexpedient, the two districts is the next best plan. Greater equality of school opportunity and more equitable support is possible with one district only.

NEW AND ENLARGED BUILDINGS ARE NEEDED.

It is very important that the county board, before making definite arrangements for any new buildings, secure the services of an architect experienced and skilled in planning school buildings. The plans should be submitted to the State board of education and be approved by that body.

All buildings should be planned with a view to appearance, utility, convenience, sanitation, fire protection, and adaptation to the requirements of improved methods of teaching. One-story buildings on the unit plan are most suitable and economical in Currituck County, especially as they will in all probability be of wood. Ground is easily obtained and inexpensive. Such buildings can be enlarged as needs increase and the complete plan may be initiated at a minimum of cost and paid for gradually. Each building should have an auditorium large enough to accommodate the people of the community for meetings of general interest and entertainment. There should be at least one extra room for industrial work in each building.

Two-story buildings like those at Poplar Branch and Currituck, with no means of egress except that afforded by an inside stairway, are dangerous. When the needed rooms are added to these buildings, whether they are of one or two stories, adequate protection from fire should be installed in both old and new sections.

Homes for the principal and the teachers should be erected in connection with the consolidated schools wherever they are needed. It is becoming more difficult year by year for teachers to find satisfactory boarding places in the country. Good homes where teachers are welcomed and can have wholesome food and comfortable rooms, affording the quiet and privacy which they need in order to do satisfactory school work, are difficult to find. School boards find one or two cottages on or near the school grounds an economical investment. The teachers or principals in charge of the agriculture and home economics work should live in the county throughout the year. For them, at least, homes are essential.

The cost of such homes to the school board in Currituck County will not be great. In most cases the abandoned school buildings can be made over into very satisfactory houses. Some of them might

be made over into garages or barns for protecting the automobiles or wagons and horses, if the latter are used for transportation. Since shelter for such purposes must be provided, this use of old buildings is probably more economical than selling them.

A REASONABLE SALARY SCHEDULE SHOULD BE ADOPTED BASED ON PREPARATION AND SUCCESSFUL EXPERIENCE.

The board should employ a staff of well-prepared and, when possible, experienced teachers and retain them during good service. To this end they should establish a standard of academic and professional attainment which all applicants for positions are expected to meet, and adopt a salary schedule planned to recognize preparation, success in teaching, and special individual merit, and to encourage self-improvement.

The minimum requirement should be graduation from a standard normal school or its equivalent in academic and professional preparation. The minimum salary should be based on this, and an increment allowed for successful experience within and without the county system. Entering teachers should have a probationary status for at least one year. After that their positions should be considered permanent during good service, with regular promotions when requirements of the board are met.

Teachers who enter with higher qualifications than the prescribed minimum should begin at a higher salary, and should probably have larger increments of increase in salary. Marked success may be recognized by skipping a grade or by establishing a bonus for meritorious service. Salaries should be on a yearly basis, paid in 10 or 12 installments. Teachers should hold themselves in readiness during vacation periods to follow any regulations the board makes for attendance at summer schools, supervision of home work, or other activities in line with their regular work.

Following is a schedule embodying these principles and recommended to the board for its consideration. The beginning salary of \$1,000 is not as high as it should be. It is given here because the present scale is so much lower that it may seem difficult to the board to raise salaries as much as it should immediately. The North Carolina State Board of Education has established a minimum of \$1,200 per year for "prepared" teachers. Certainly Currituck County should not be content until this minimum is established and only prepared teachers are employed. If any child anywhere in the State needs well prepared teachers, all children, including those in Currituck County, do, and for the same reasons. Money spent on those below standard in efficiency is wasted. Certainly it is not possible and can not be expected that efficient teachers will remain in the county unless the salaries paid justify them in doing so.

A proposed salary schedule.

Teachers.	Length of time of ap- point- ment.	Salary schedule for each group.				Yearly salary increase.		Year in which group maximum can be reached.
		Normal-school graduates.		College graduates.		Normal school grad- uates.	College grad- uates.	
		Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.			
One-year teachers (probationary for 3 years).....	1	\$1,000	\$1,150	\$1,200	\$1,350	\$75	\$125	Third.
Three-year teachers.....	3	1,225	1,375	1,425	1,575	75	125	Do.
Five-year teachers.....	5	1,450	1,650	1,650	1,850	50	100	Fifth.
Permanent teachers.....	(1)	1,700	2,000	1,900	2,200	50	100	Seventh.

¹ Until retired.

When the maximum of each group is reached the following alternative courses should be open to the board of education:

1. Termination of the contract (permissible each year in group No. 1).
2. Reappointment annually at the group maximum.
3. Promotion to the next higher group.

The promotion from group to group beyond that of the three-year teachers should be granted only to those who have shown special merit and have given evidence of valuable professional study. To satisfy the latter condition, the board might require the candidate for promotion to spend a year in study at some recognized college or university, or a year in teaching in some good school system in another part of the country, or perhaps a year in study and travel combined. In this connection a system of exchanging teachers might well be established.

A schedule such as the one prepared would have teachers who enter the first group looked upon as being on a probationary status, subject to reelection each year for three years. Those who are rated as "successful" at the end of this period may be promoted to the group of three-year teachers, where they will advance automatically according to the given increments for a period of three years. Those who are rated as "unsatisfactory" can in turn be continued from year to year at the maximum of the probationary group or dropped from the corps. When a teacher has reached the maximum of the three-year group, the board can then promote her to the five-year group if she has met the requirements demanded for promotion, reelect her from year to year at the maximum she has reached, or dismiss her. And so, when the maximum of the five-year group is reached, the teacher who has won promotion by her success in the classroom and by her efforts at self-improvement can be made a member of the "permanent teacher" group, where

she will remain until she retires. If, in the judgment of the officials, a teacher has not merited this promotion, she can be retained for a time at the maximum salary granted to the group she is in or be dropped. In this manner an adjustment can be worked out between the teachers' proper desire for security of tenure and the board's proper desire to eliminate the teachers who do not continue to grow in efficiency. At the same time the teacher knows that efforts at self-improvement will find tangible reward in terms of salary increase.

ADEQUATE SUPERVISION SHOULD BE PROVIDED.

The plan suggested for reorganizing the schools contemplates the engagement of four principals.¹ Each should have at least half his time free for supervision. One of these principals should be prepared to direct the introduction of and supervise work in home economics; another should do the same for agriculture; another for physical education; and another for music. The board should have in mind, when selecting the principals, special preparation and fitness for such work. In addition to their duties in the schools of which they are in charge, they should supervise their special subjects in all the schools of the county.

For the present at least a primary supervisor is needed to have general charge of the first six grades. After the new buildings are completed, the new organization well established and well prepared, experienced teachers are secured who remain in the system from year to year; the superintendent and the principals together will constitute an adequate supervisory staff.

A NEW COURSE OF STUDY SHOULD BE PREPARED.

The county is entirely rural. Farming is the one important industry. The school, if it meets the needs of the community, must connect its work closely with farm and home life in the elementary grades and establish in the upper grades courses which directly prepare for farming and home making.

This does not mean that the curriculum should be so narrow as to confine itself to education in agriculture or to make a vocational school of the elementary course. It does mean that all education must be based on life and in a rural community on country life; that children who, because of inclination, ability, and circumstances, expect to remain in the county and be farmers need the chance to prepare to be intelligent ones, and that the school should offer them this opportunity. The fact that the present population is made up

¹ The distribution of work contemplated is, one principal for high school and one for elementary grades in each district. Another basis, that of location, for example, might be adopted if preferable.

of persons whose families have long lived in the vicinity leads one to believe that most of the children now at school will remain and make their homes in the county. Moreover, a school course of the kind described would appeal alike to the practical minds of boys and girls at the age when they are most inclined to leave school, and to their parents, who have learned by experience to realize the necessity of progressive scientific methods of farming. Children come longer and more regularly to school when their interests are engaged and their welfare affected in a way which is evident to them.

The schools should be organized on the six, three, and three plan—six elementary, three junior high, and three senior high-school grades. This is economical as well as efficient in the country because older children can walk or be transported somewhat farther than younger ones and concentration of groups is more feasible. Senior high schools and, to a less extent, junior high schools need more expensive equipment, larger buildings, and teachers who have specialized in the subjects they teach, and should not be unnecessarily multiplied.

The North Carolina State course of study will form a good basis but should be adapted to local conditions. The first six grades are concerned chiefly with fundamentals and should, in addition to the tool subjects, provide for nature study, gardening, play and recreation, sanitation and hygiene, dramatization and story telling. Music, literature, the fine and industrial arts should be taught with emphasis on appreciation.

The junior high-school course may include electives, one or two in the first year, increasing the number allowed in the second and third years. In the junior high school three years each of English, history, and mathematics, one year of civics, two of geography, and natural science, one year of hygiene and sanitation, and three years each of physical education, music, and current events should be required. Other required and elective subjects may be selected from the following: Home economics, fine and industrial arts, animal husbandry, agriculture, one or two other sciences, commercial subjects, Latin, and at least one modern language.

In the senior high school a higher degree of specialization should be expected and the number of electives increased. Courses which prepare for college and courses which prepare for vocations should be offered, affording as wide a selection as the size of the school and resources of the community warrant.

A NEW SYSTEM OF KEEPING ACCOUNTS AND RECORDS IS NEEDED.

The systems of accounting and of record keeping do not show the things about the business conduct of the system and the school conditions which they should. The records kept now show the cash

balance, the amount of indebtedness, etc., and check items of expenditures roughly for the county. They do not show the cost per child in average daily attendance in each school; the amount per capita which the board is spending, expressed in terms of salaries, repairs, equipment, supplies, etc. An account should be opened with each school, so that the board can know how the children in each are faring in terms of money expended. If this were done in Currituck County, it would show a very wide variation among the schools in the amount spent per child on education.

The records should also show such things as the following:

1. Age-grade distribution for each school and for the whole system taken annually to determine facts about retardation and acceleration of pupils.

2. A table compiled annually showing how many children in each grade and school have attended for 100 days, 110 days, 120 days, and so on up to the full number of days the school has been in session.

3. A table showing the facts about promotion and failures in each grade and in each school.

4. A table showing the number of children who dropped out before the term closed and why.

5. A card catalogue of those who have completed the grades and the high school, showing the important facts about their school history, where they go and what they do.

6. A card catalogue of teachers showing training, experience, certification, and other facts of importance.

7. Chart showing seating capacity and number of children assigned to each room.

8. The annual reports of the superintendents of other school systems should be secured, examined, and a card index compiled of references to those which the superintendent foresees may be of use in connection with some of his projects. A similar file of publications from the State department, leading educational journals and the like, would be useful.

THE COST OF CARRYING OUT THE PLAN NOT PROHIBITIVE.

Estimates for the present school year indicate that the county is spending for all purposes about \$15.50 per child enrolled on the upkeep of the schools. The corresponding figure for the United States (average as estimated in another paragraph) is \$55.65. As the given amount in Currituck County is spent almost entirely on teachers' salaries, we may confine ourselves to that in this estimate.

If the per capita expenditure is increased \$9.50 per year, making a total of \$25, the county will still be spending much less than the average for the United States and can not be considered extravagant

or even liberal in providing for schools. Such an increase will be approximately equal to that amount raised by a levy of 3 mills on the total tax valuation of the county, or \$18,632. The salary budget for the present year is \$41,244. If to this is added \$18,632, estimated as above, the total available for salaries will be approximately \$60,000.

If the plan proposed were carried out the following teachers would be needed:

For the consolidation at—

Powells Point.....	6
Coinjock.....	5
Poplar Branch.....	9
Shawboro.....	4
Currituck.....	5
Moyock.....	7
For the schools in Fruitville.....	4
Total.....	40

Forty teachers, with four principals and one supervisor, will constitute a staff large enough to allow one teacher for each grade in most cases, with not more than two grades for any teacher, with three teachers for one and four for the other senior high school devoting full time to high-school subjects. The cost of this staff is estimated below. Salaries suggested, while much higher than those now paid in the county, are not better than good teachers should expect. A term of nine months is contemplated. Of the \$59,500 estimated as necessary, the State can be expected to pay half or nearly half. The amount received from that source the present year is \$25,000. Some increase is probable.

Two principals for the senior high schools, at \$2,000 each.....	\$4,000
Two principals for the junior high schools, at \$2,000 each.....	4,000
Forty teachers, at \$1,000 each per year.....	40,000
One primary supervisor.....	1,500
Total.....	59,500

It is not intended that this estimate shall be more than a tentative one or give more than a general idea of the cost. When the levy is actually made, it will probably come in part from county and in part from special district sources. The county levy can be increased the next year without exceeding the maximum prescribed in the law at the present time, regardless of any provision the legislature now in session may make. However, a 3-mill increase over this year's levy probably represents the minimum amount which will be needed to carry out the new plan the coming year. As salaries increase according to the schedule suggested, the annual expense will increase somewhat. The county tax rate this year is 1.9 mills. If we add to this the 3 mills suggested for increasing salaries and qualifications of

teachers, the total would not exceed 5 mills. A 6-mill levy would doubtless cover the maintenance expense of all the improvements recommended. Many counties in other States have a far higher rate for schools; 50, 75, and even 100 mills are not uncommon.

The money needed for buildings and equipment, including trucks or wagons for transportation, should be raised by a bond issue. Automobile busses for schools or auto trucks have proved most satisfactory for transporting children in different parts of the country. Generally the cost per child is less than if horse-drawn vehicles are used. The initial cost is greater and should be included in the bond budget, while the maintenance expense should be included in the annual tax levy estimate. The interest and a sinking fund for meeting the annual payments should be provided for also when the levy is made.

CAN CURRITUCK COUNTY AFFORD BETTER SCHOOLS?

It has been indicated elsewhere that Currituck County is not poor in natural resources, value of products, native ability of its people, or tax valuation. Intelligence and prosperity are indicated by the quality of farm homes and buildings, machinery, and general improvements. Many of the homes are equipped with electric or other lighting plant and have other modern conveniences. Tractors and other farm implements show that progressive ideas of farming prevail. There are 400 automobiles, valued at approximately \$400,000, a per capita investment of \$55, more than four times the amount (\$12) invested in school property. Estimating upkeep of these automobiles at the conservative figure of \$15 per month, more money is spent annually on automobile repairs, oil, and gasoline than for the maintenance of all the schools in the county. If we consider only the money spent by the county itself, exclusive of State funds, it is safe to say that the people of Currituck are spending this year twice as much on keeping up automobiles as on educating children. Only in the schools are the people of the county willing to continue the methods and standards of living adopted by their fathers and grandfathers to meet the needs of many years ago. The old homemade benches (not desks) still in use in some schools bear the initials of the grandparents of children who now attend, and if not in the same buildings, at least in those which are similar in kind and construction.

The State's favorable laws and liberal assistance in funds do much for the educational interests of the county. Recently property valuation for taxing purposes has been raised, conforming with progressive ideas on this subject. In short, the county gives every indication of being in a favorable position for the establishment of a modern system

of schools. It is necessary only for the people actively to interest themselves in the education of their children and to contribute more generously to the support of the schools.

It is not necessary that an amount be added to the present school expenditures which shall be burdensome to taxpayers, or that it shall be more than a slight expense to the majority. Table 9 shows the number of persons paying taxes on given valuations, ranging from \$500 to more than \$10,000, arranged in intervals of \$500.

TABLE 9.—*Number of persons paying taxes on given valuations.*

	Persons.		Persons.
On \$500 or less.....	886	On \$6,001 to \$6,500.....	12
On \$500 to \$1,000.....	246	On \$6,501 to \$7,000.....	20
On \$1,101 to \$1,500.....	142	On \$7,001 to \$7,500.....	15
On \$1,501 to \$2,000.....	117	On \$7,501 to \$8,000.....	23
On \$2,001 to \$2,500.....	107	On \$8,001 to \$8,500.....	16
On \$2,501 to \$3,000.....	71	On \$8,501 to \$9,000.....	10
On \$3,001 to \$3,500.....	61	On \$9,001 to \$9,500.....	8
On \$3,501 to \$4,000.....	56	On \$9,501 to \$10,000.....	14
On \$4,001 to \$4,500.....	45	On \$10,000.....	110
On \$4,501 to \$5,000.....	44		
On \$5,001 to \$5,500.....	30		
On \$5,501 to \$6,000.....	32		
			<hr/> 2, 065

Valuation of hunting clubs, \$337,036; number of clubs, 8. N. S. Railroad property, \$469, 202.

Of the 2,067 taxpayers in the county, more than 40 per cent pay taxes on \$500 or less and approximately 55 per cent (54.7 per cent) pay on a valuation of \$1,000 or less. A flat increase in the levy of 3 mills recommended in this report means an increase in total taxes paid annually of \$1.50 or less for 40 per cent of the people and \$3 or less for more than half the people in the county. For 88 per cent of the taxpayers, the increase amounts to \$15 or less. Only 110 persons and corporations, including a number of clubs, railroad and other corporations, as well as nonresident individuals, would have increased taxes of \$30 or more per year. Surely this amount is negligible in view of the fact that this slight increase on the property of the county would make possible the maintenance of vastly improved schools.

The total cost of building and operating good schools is always greater than that of poor ones. Good buildings, good teachers, longer terms, high schools, and transportation facilities cost money. So indeed do modern homes, harrows, disks, tractors, automobiles, lighting systems, and telephones, and yet few intelligent people contend that we should discard these modern means of comfort and convenience. Economy does not necessarily follow small investments but depends rather on the returns on the investment, the

value received for money expended. The present school system costs very little, but the returns are meager also. Indeed, many schools now cost more than their value in educational returns actually justifies. A good school system will enroll a higher percentage of the children of school age; will keep them at school regularly for a longer period each year and for the completion of the full course; will provide the kind of education that makes better and more useful citizens; add to land values and productive possibilities of the county; and encourage desirable and progressive citizens to make homes within its borders. Returns on the investment measured in money will be much larger than from the same amount invested in any other way. If measured in terms of the permanent influence on the lives of the children and the higher welfare of the community, they will be greater still.

SUMMARY OF RECOMMENDATIONS.

1. Substantial increase of school funds.
2. Consolidation of schools according to plan outlined.
3. New buildings which meet modern requirements in appearance, arrangement, and equipment.
4. Reorganization on the 6-3-3 plan; a course of study based on the life and needs of the community and harmonizing with such reorganization.
5. Adequate staff of prepared supervisors, principals, and teachers.
6. Salary schedule based on preparation, experience, and meritorious service, applying alike to all parts of the county.
7. Provision for enforcement of compulsory attendance law and systematic effort to promote regularity of attendance.
8. The school term of nine months for all schools.
9. Adoption of effective system of cost accounting and of collecting data and keeping records.



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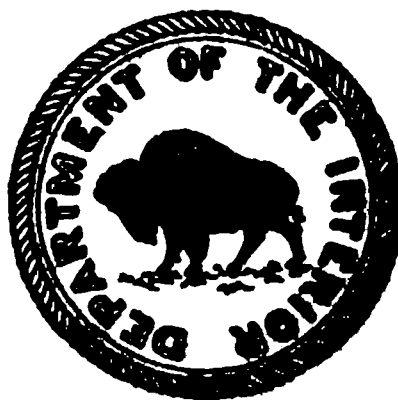
BULLETIN, 1921, No. 25

A SCHOOL BUILDING PROGRAM FOR ATHENS, GEORGIA

By

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A SCHOOL BUILDING PROGRAM FOR ATHENS, GEORGIA.

Athens was the pioneer in bringing higher education to the youth of Georgia. Will it lead in reconstructing its public school plant so as to bring modern educational advantages to the children of the public schools?

This question states the real significance of a school building program for Athens at the present time.¹

ATHENS AN EDUCATIONAL CENTER.

When the visitor to Athens asks what is the chief industry of the city, the answer is "Education." And the answer is not far wrong, as yet.

Athens did not start as an industrial center. Education, not industry, was the cause of the founding of the town. In 1801 a grant of 600 acres was given to the State by John Milledge for the purpose of establishing "a seat of learning" in Georgia. A site was chosen for the State University of Georgia, said to be one of the oldest State universities in the country; and the town grew up around the university.

This fact has conditioned the character of the town in a number of interesting ways. In the first place, if the town had started as an industrial center, the first building would probably have been erected along the flats by the Oconee River, and then as the town grew the more well-to-do members of the community would have climbed to higher ground, leaving about the river the usual unsightly mixture of old insanitary dwellings jostled by encroaching factories. But the town started with the university, and it started on the heights. The municipal buildings, the post-office, the city hall, and the University of Georgia were all built on a high plateau. Later, the city spread out into four wards. The second ward, running through the city northwest and southeast, represents the original settlement. The first ward, where the factories follow the river, climbs up the east bank of the Oconee River; the fourth ward, now the congested part of the city, extends almost due west from the Oconee River; while the third ward, the newer residential section, spreads out to the south.

Athens is different in spirit from the usual industrial town. Like its namesake, it is beautiful. It has the variety of landscape, the

¹At the request of the Board of Education of Athens, Ga., the Commissioner of Education detailed Alice Barrows Fernandez, specialist in the United States Bureau of Education, to make a survey of the public schools of Athens, Ga., with a view to working out a building program for the schools of the city. The survey was made in March, 1921. Mrs. Fernandez was assisted in working out the plans of buildings and building costs by Mr. William B. Ittner, consulting architect.

richness of coloring, and the stimulating air that make the Athenians of Georgia love their native city as the Athenians of old loved their city. Again, like its namesake, the city seems to realize the importance of living, not merely the importance of accumulating things. It cares about education; it cares about enriching life.

ATHENS DEVELOPING INTO AN INDUSTRIAL CITY.

But the visitor to Athens can not be there long without realizing that a change is coming over the city, and that this spirit of mellow enjoyment of life, of tolerance, and of interest in ordered living and human progress which goes with, or should go with, the university spirit, is rather what remains of the first period of Athens's history. The real question is what the second period of its history is going to be.

Athens is rapidly becoming an industrial city.² It is now the second largest inland cotton market in the State, and it is also the center of a large wholesale business for northeast Georgia. It already has some 30 manufacturing establishments, of which the largest are the 5 textile plants, employing about 720 people. The other manufacturing plants are fertilizers, a compress plant, foundry and machine shop, woodworking shops, brick plant, bottling, bakeries, candy, laundry, oil factories. There are about 200 retail stores. It was impossible to secure the exact number of workers in the different plants, but it was estimated that in the 30 establishments enumerated there were about 1,200 people.

This development of the industrial life of Athens necessarily shifts the emphasis in education, or rather it enlarges its scope. Athens is no longer a university town but a modern industrial city where the question of public education for the mass of children has come to be of as vital importance as the question of university education. The important question before the city is whether it is going to recognize these facts in time and reconstruct its school plant to meet the changed conditions.

SIGNIFICANCE OF A SCHOOL-BUILDING PROGRAM FOR ATHENS.

The real significance of a school building program for Athens at the present time is that it is a challenge to the city to prove whether or not the belief in education upon which the city was founded is virile enough to face the facts of modern life; whether it is scientific enough to recognize that changed social and industrial conditions demand drastic changes in public schools, and that, in order to preserve its leadership in education, the university education of which the city is justly proud must be founded upon a broad, modern, elementary school education.

The educators of Athens have a clean-cut choice before them. They can either let the industrial development of the town grow and

² The total population in the whole city in 1920, exclusive of the new territory annexed, was 17,912, an increase of 11.1 per cent in 10 years.

dominate the character of the city, leaving education, as too often happens, in a sort of secluded bypath, a privilege for the few rather than an opportunity for the many, or they can take the initiative now in helping to make the public schools of the city what the public school system in America ought to be—a children's university. The fine spirit of cooperation between the university and the public schools indicates that that choice has already been made.

The fathers and mothers of Athens have the choice of letting their children remain in cramped quarters which will stunt their growth, spiritually, mentally, and physically, or they can demand that their children, the children of all the people, shall have as rich an education as the favored few who are able to survive and go on to a university.

The business men of the city have the choice of letting the present plant continue, getting more and more decrepit, thus necessitating larger and larger expenditures for repairs and additions, or they can enter upon a statesmanlike policy to adopt a permanent building program which will give a modern up-to-date school plant to the city, carrying out as much of it as possible with the present bond issue and the remainder from year to year until the plan is completed.

CONTEMPLATED BOND ISSUE INADEQUATE FOR NEEDS OF SCHOOLS.

The contemplated bond issue of \$323,000 is totally inadequate to meet the needs of the public schools of Athens. It is possible, however, to *begin* to meet the needs with that amount. But even that can not be done economically and efficiently except on the basis of a permanent building program, of which the plans for the expenditure of the \$323,000 bond issue will be only a part.

This report, then, will describe what the present conditions are in the schools; outline a permanent building program which will take care of congestion and provide for growth over a period of at least 10 years; outline in detail what part of this program can be carried out with the \$323,000 bond issue; and show that it is financially possible for Athens to carry out the permanent building program in the near future.

PRESENT CONDITIONS IN THE PUBLIC SCHOOLS.

The condition of the public school buildings in Athens is deplorable.

Athens is to be congratulated upon the fine, progressive spirit of its superintendent, board of education, and teaching force. They are doing their best to give progressive education to the children, but they are trying to do it in the face of almost insuperable obstacles in the way of buildings and equipment. It is impossible to make bricks without straw. It is equally impossible to carry out the precepts of modern education to "give children the opportunity for self expression," to teach them to "learn by doing," etc., when there is nothing with which to do or make things, nothing but school seats, and not a sufficient number of them.

TABLE 1.—Original capacity of the public schools of Athens; net enrollment in 1910-11 and in 1913-14; net enrollment in 1919-20; per cent of increase in enrollment 1910-11 to 1919-20; number of regular classrooms available; total classrooms required; excess of rooms required over those available; special activities.

Schools.	Date of erection.	Grades.	Enrollment.					Regular activities.			Special activities.																				
			Net enrollment.			Excess of pupils in 1919-20 over seating capacity of school.	Per cent increase 1910-1920.	Number of regular classrooms.	Total number of classrooms required.	Excess of classrooms required over those available.	Built for purpose.	Classroom used.	Gymnasium.		Manual training.	Shops.		Cooking room.	Sewing room.	Drawing room.	Music room.	Nature study.	Chemistry.	Physics.	Library.	Principal's office.	Teachers' rest room.	Other rooms.	Total square feet.	Per child.	
			In 1910-11.	In 1913-14.	In 1919-20.								Built for purpose.	Classroom used.		Built for purpose.	Classroom used.														Other.	Commercial room.
ELEMENTARY SCHOOLS.																															
White:																															
Baxter Street.....	1887	1-7	270	282	305	25	12.9	7	8	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Childs Street.....	1909	1-7	243	278	410	90	23.7	8	11	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
College Avenue.....	1908	1-7	425	497	429	51	79.9	12	11	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Oconee Street.....	1908	1-6	139	221	250	10	40.1	6	7	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Nantabala Avenue.....	1907	1-5	157	181	220	60	30.7	4	6	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total.....			1,234	1,469	1,614	134		37	43	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Negro:																															
East Athens.....	1891	1-5	350	362	429	189	22.5	6	11	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
West Athens.....	1891	1-5	456	221	291	51	56.7	6	8	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Newtown.....		1-5	.....	209	182	22	100.0	4	5	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Reese Street.....	1913	7, 6, 7	.....	838	163	43	100.0	3	4	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total.....			808	1,130	1,065	305	32.1	19	28	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total elementary.....			2,240	2,599	2,679	439	31.3	56	71	15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
HIGH SCHOOLS.																															
White:																															
Athens High School.....		8-11	165	254	345	.....	109.0	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Negro:																															
High and Industrial.....	1913	7 8-11	.....	50	111	.....	100.0	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Grand total.....			2,202	2,903	3,137	.....	42.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

- 1 One of the classrooms is used as a cooking room.
- 2 A room in the basement is used as a classroom.
- 3 Decrease.
- 4 Two rooms which are under size are counted as one.
- 5 On the basis of the 1921 enrollment, 400 pupils.
- 6 On basis of 1921 enrollment.
- 7 The elementary grades (5, 6, 7) and the high-school grades (8, 9, 10, 11) are in one building. Estimating a room to a class, 4 rooms for the present enrollment would have to be set aside for the elementary grades.
- 8 See high-and industrial school.
- 9 A former jail has been converted into a manual training shop of 2 rooms.
- 10 Two rooms have a movable partition, which when drawn convert the 2 rooms into a makeshift auditorium.
- 11 One small room in the basement.
- 12 There are 4 classes in the evening school, for which temporary quarters have been secured in garages and shops around the city, as there is no room for them in the school.
- 13 In a remodeled house on the grounds.
- 14 Part of the porch has been partitioned off for a principal's office.

SCHOOLS BADLY CONGESTED—439 MORE CHILDREN THAN SCHOOL SEATS.

The schools are badly congested. There are five white elementary schools and one white high school. There are three Negro elementary schools and one combination elementary and high school. In the white elementary schools there are 1,614 children and 1,480 school seats, 134 more children than there are seats. In the Negro schools there are 1,065 children and 760 school seats, 305 more children than there are school seats.³ In other words, 16.4 per cent of all the elementary school children were without school seats in 1920. They went to school and somehow seats were found for them. But it means that there were too many children in a room; that some children attended school only in the morning and some only in the afternoon; that they had to sit in overcrowded rooms with bad air, and subject to all the evils of overcrowding; and that in some cases children were studying in the corridors with screens used in the sorry attempt to convert a corridor into a classroom.

TABLE 2.—Number of teachers per school in 1919-20.

Schools.	Principals.	Regular teachers.	Special.										Total regular.	Total special.	Total principals.	Grand total.
			Chemistry.	Physics.	Physical training.	Commercial.	Domestic science and arts.	Manual training.	Band.	Military tactics.	Music.	Drawing.					Librarian.
ELEMENTARY.																
White:																
Baxter Street.....	1	6														
Childs Street.....	1	17														
College Avenue.....	1	10														
Oconee Street.....	1	6														
Nantahala Avenue.....	1	5														
Total.....	5	44											44		5	49
Negro:																
East Athens.....	1	5														
West Athens.....	1	4														
Newtown.....	1	3														
Reese Street.....		4														
Total.....	3	16											16		3	19
Total elementary.....	8	60											60		8	68
HIGH SCHOOLS.																
White: Athens High School.	1	8	1		2	1	2	1	1	1			8	9	1	18
Negro: High and Industrial.	1	4	1				1	1	1				4	4	1	9
Grand total.....	10	72	2		2	1	3	2	2	1			72	13	10	95

³ See Table 1, showing original capacity of the public schools of Athens, Ga.; net enrollment 1910-11 and 1919-20; per cent of increase in enrollment 1910-1920; number of regular classrooms available; total classrooms required; excess of rooms required over those available; number of special activities.

And the congestion is going to be worse as time goes on. The enrollment in all the schools increased from 2,202 in 1910 to 3,137 in 1920, an increase of 42.4 per cent in 10 years. Yet there has been no new elementary school building for 12 years. This means that a building program must not only eliminate the congestion which has developed in the last 10 years, but also provide for a growth of 42 per cent in the next 10 years.

NO MODERN SCHOOL FACILITIES IN THE ELEMENTARY SCHOOLS.

Classroom congestion is sufficiently undesirable, but when, in addition, there is no opportunity for healthful work and play in shops and playrooms and auditoriums and laboratories, the situation becomes a menace to the health and morals and intellectual growth of the children. Yet there are almost no special facilities in the elementary schools of Athens.⁴ There is not a single auditorium, and there are only two special activity rooms in all the white elementary schools—one cooking room in the Charles Street School and one in the College Avenue School. There is a cooking room in Baxter School, but it is nothing but a classroom with some meager cooking equipment. In Nantahala School a closet is used as a cooking room, and in Oconee part of a hall has been partitioned off in the attempt to develop this work. These attempts show the desire of the principals and teachers to give some special work to the children, but the space and the equipment are pathetically inadequate.

There are no science rooms in any of the elementary schools, no shops, no drawing rooms, no music rooms, no libraries, no gymnasiums. There are only two principals' offices in all of the eight elementary schools, and there are no teachers' rest rooms in any of the schools.

THE HIGH SCHOOLS.

The facts as given on the chart as to the Athens High School are misleading.⁵ As a matter of fact, the building is entirely unsuited to school purposes, and only the fine spirit of the principal and teachers makes it possible to carry on the work effectively. The building was originally a courthouse. It is not fireproof. It is badly constructed. The ceilings are so high that it is expensive to heat, and the windows are so narrow that the lighting is very bad. But there are only 345 children in the high school, and there are 1,614 children in the elementary schools. And the elementary school children do not have even the special facilities that exist in the high school. Therefore it is obvious that the needs of the elementary school children should be taken care of first.

⁴ See Table 1.

The High and Industrial School for Negroes is utterly inadequate for the number of pupils enrolled and for the type of work that is being carried on there. As a matter of fact, this school is carrying a triple load, for it includes an elementary school, a high school, and a night trade school. Yet the building is only a frame structure of the 8-classroom type, with a cottage for the domestic-science work. When the fact is considered that there is being taught in this school at present the regular academic work, together with science, shopwork, and domestic science, and that, in addition, courses in carpentry, blacksmithing, plastering, brick masonry, automechanics, and nurse training are being given in the trade school, and that there is such a demand for this work that garages and shops in the city have to be rented to carry on the work in the evening, it is clear that the type of work being done in this school has far outgrown the building and equipment.

To sum up, in a school system of 3,137 children, there is only 1 auditorium, 1 gymnasium, 3 manual training shops, 2 commercial rooms, 4 cooking rooms, 3 sewing rooms, and 3 science rooms. And all of these special facilities, with the exception of 2 cooking rooms, are in the 2 high schools.

WORK AND PLAY AS NECESSARY AS STUDY.

The seriousness of this lack of modern educational facilities can only be understood when it is realized that work and play are as essential in education as opportunity for study in classrooms. No child was ever educated by study alone. All children have always been educated by three things—work and study and play. If they are deprived of any one of these, their education is incomplete. But children in modern cities are being deprived of two of these essential elements in their education, i. e., work and play.

It is difficult for adults who have been brought up in the country, in a simpler environment, to realize what a revolution has taken place in the conditions surrounding children's lives. It is difficult for them to realize that the days of the little red schoolhouse have gone forever. Everyone knows, when he stops to think about it, that school does not necessarily spell education. A child's "education" begins each day from the moment he gets up in the morning until he goes to bed at night. Some of this education he gets in school, some of it he gets outside of school. But the kind of education which the child of to-day gets outside of school is very different from what he received 50 years ago outside of school, while the education which he receives in school has remained much the same. Fifty years ago he began the day by doing chores about the farm, taking care of the animals, mending a piece of harness or part of a wagon. Then he went to school and got the "book learning" that he could not get at home,

and after school he played in the fields or stopped in at some blacksmith shop or carpenter shop and watched a friend at work and learned to handle tools himself. All this work on the farm and in the small shops was education, and the schoolhouse simply supplemented it. Furthermore, it was this first-hand knowledge of life and this opportunity to experiment, to learn to handle tools, to invent new ways of doing things, which developed the independence and initiative, the mechanical knack and resourcefulness, that have given this nation much of its inventive genius.

But times have changed. At the present time 50 per cent of the population of the country live in cities, and the city is an extremely poor place in which to rear children; chiefly because it deprives them of the opportunity for healthful work and play. There is little work of educational value to be done about a city home. On the contrary, the whole tendency in the city is to have as much work as possible done outside the home. There is no harvesting and planting to be done, few, if any, animals to be taken care of; and it is a rare city home that has a workshop or tools or laboratory in which children may experiment.

But the city not only fails to educate children in the right direction; it educates them in the wrong direction. With the majority of children the street becomes their only playground, and the street is a most effective teacher in all the vicious and sordid side of a city's life. There is probably no greater menace to the health of the children of this country—physical, mental, and moral—than our failure to realize the vital necessity of play for children. The average adult apparently looks upon play as recreation merely, something to indulge in after the serious business of life is over for the day, something that one is a little ashamed to give much time to, until perhaps ill health forces one to give time to it. Possibly because of the stress and speed at which life is lived to-day, the fact has been forgotten that play is not merely recreation, not a luxury, but a *necessity* for children if they are to grow in strength and health and mental keenness.

Children in the public schools all over the country get practically no time for play until 3 o'clock in the afternoon. Ten minutes' recess in the morning and a few minutes in the afternoon is not play, it is literally a "recess" from sitting in school seats. And Athens is like every other city in this respect. But Athens, at least, has the authority and inspiration of her namesake for a better custom. To the Greeks, play was of the first importance in their scheme of education. The Athenians, whose achievements in art, literature, education, and the art of living have never been surpassed, realized that play was the foundation of physical health and intellectual power. Yet in the modern Athens of Georgia there is no public playground, and there is practically no opportunity for children to play during

school hours. It were well if the modern Athenians took to heart the words of Socrates in regard to the place of play in education, when he says in *The Republic*:⁶

Can there be anything better for a State than that it should contain the best possible men and women?

There can not.

And this result will be brought about by music and gymnastics employed as we described?

Undoubtedly.

THE CITY SCHOOL MUST PROVIDE OPPORTUNITY FOR THE WORK AND PLAY WHICH THE HOME CAN NO LONGER PROVIDE.

Since the city is doubtless here to stay, it is imperative that the school return to children the opportunity for the work and play which the home no longer supplies, and which is absolutely essential for the healthy growth of children. For these reasons it has come to be recognized that every modern school must have not only classrooms but also an auditorium, gymnasium, shops, laboratories, cooking rooms, sewing rooms, drawing and music rooms, where children may be kept wholesomely busy all day long.

What Athens needs is a building program which will not only eliminate congestion and give adequate classroom facilities, but which will also provide the special facilities for work and play.

But how is Athens to develop a building program which will not only furnish sufficient classrooms but also provide the other modern educational facilities, and do it within the financial limits of the city?

THE BALANCED LOAD PLAN VERSUS THE PEAK LOAD.

There are two chief methods of accomplishing this. One is by the traditional type of school organization, or the peak-load type; and the other is the work-study-play plan, or balanced-load type.

The traditional type of school organization attempts to solve the situation by the usual custom of providing a seat in a classroom for every pupil, which that pupil has for his exclusive use. All children are expected to be in school seats at the same time, and if provision is made for such special facilities as auditoriums, gymnasiums, laboratories, and workshops, they have to be erected in addition to a classroom for every class, and when the pupils go to the special rooms the classrooms are vacant. This means that the addition of these special facilities which are essential in a modern school plant add, under the traditional plan, fully 60 per cent to the cubical content of the building.

This is what is commonly known in business as the "peak-load type" of organization because the load is not distributed, but, on

⁶The Republic of Plato, Book V.

the contrary, tends to concentrate at any moment in one part of the building, e. g., the classrooms, and when the children leave the classrooms to go into the special facilities the load is transferred, leaving the classrooms vacant. Obviously, if Athens has to supply not only these special modern educational facilities, but a school seat for every child, the expense will be prohibitive. The question for Athens, then, is how the school system can be rehabilitated to furnish larger educational opportunities and at the same time effect the economies which will bring the building program within the financial resources of the city?

It is evident that the solution of the problem must be found in the increased use of school accommodations and more skillful school planning. Both are possible by skillful organization and administration. Fortunately, there is a method of school organization which has demonstrated its ability to effect these results, namely, the work-study-play plan, or balanced-load type.

This plan developed in an attempt to solve the peculiar school problems created by the modern city, and it is now in operation in the public schools in some 30 or 40 cities in the country.¹ It grew out of a recognition of the fact that, as is the case in Athens, the growth of city conditions makes the educational problem far more difficult than formerly; in fact, has created a new school problem. The plan represents an attempt to make it practicable, both administratively and financially, for school administrators to provide not only classroom accommodations, but also such modern educational facilities as gymnasiums, auditoriums, shops, and laboratories, where children may be kept wholesomely occupied in study and work and play.

THE WORK-STUDY-PLAY, OR BALANCED-LOAD, PLAN.

Under the work-study-plan the load is balanced so that half the children are in classrooms while the other half are at work and play. For example, a school is divided into two parts, each having the same number of classes and each containing all the eight or nine grades. The first part, which we will call the "A school," comes to school in the morning, say, at 8.30, and goes to classrooms for academic work. While this school is in the classrooms it obviously can not use any of the special facilities, therefore the other school—B school—goes to the special activities, one-third to the auditorium, one-third to the playground, and one-third is divided among such activities as the shops, laboratories, drawing and music studios. At the end of one or two periods—that is, when the first group of children has remained,

¹ For example, Detroit, Mich., has 16 public schools on the work-study-play plan, and has just adopted a program for putting all the schools in the city on the plan. Pittsburgh, Pa., has 6 schools on the plan; Passaic, N. J., has 2; Newark, N. J., has 9; Troy, N. Y., has 1; and Newcastle, Pa., has 4. Winetka, Ill., Kalamazoo, Mich., Sewickley, Pa., and Swarthmore, Pa., are running all their schools on the plan. For information regarding attitude of school superintendents in these cities toward the plan, see Appendix I.

according to the judgment of the school authorities, in school seats as long as is good for them at one time—the A school goes to the playground, auditorium, and other special facilities, while the B school goes to the classrooms. Chart I shows how the load is balanced so that half the children are in classrooms while the other half are working and playing.⁸

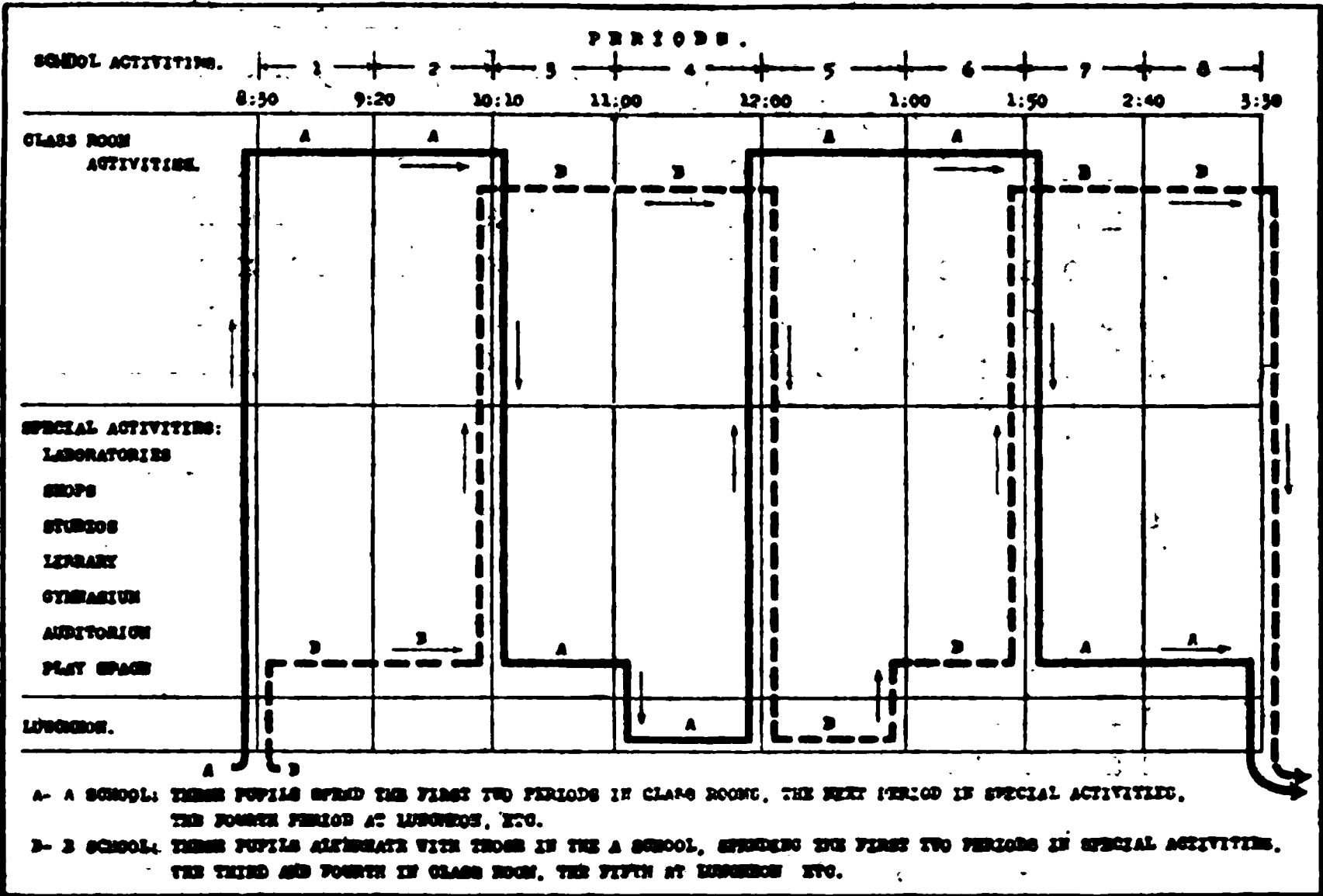


CHART I.—Balanced load-plan of school organization by which half the school is in classrooms while the other half is at work and play.

The following is one type of program that may be used. In this program each school (A and B) is divided into three divisions: Division 1, upper grades; division 2, intermediate grades; division 3, primary grades.⁹

The "A School."

School hours.	Regular activities.	Special activities.		
	Academic instruction.	Auditorium.	Play and physical training.	Cooking, shop, science, etc.
8.30- 9.20	Arithmetic—Divisions 1, 2, 3.....	.....	.....	Division 2.
9.20-10.10	Language—Divisions 1, 2, 3.....	.....	.....
10.10-11.00	.....	Division 1.....	Division 3.....	
11.00-12.00	(Entire "A School" at luncheon.)	.....	.....
12.00- 1.00	Reading—Divisions 1, 2, 3.....	.....	.....	Division 1. Do.
1.00- 1.50	History and geography—Divisions 1, 2, 3..	Division 3.....	Division 2.....	
1.50- 2.40	.....	Division 2.....	Division 3.....	
2.40- 3.30	.....	.....	.....

⁸ See Chart I.
⁹ For other types of programs see Appendix II.

The "B School."

School hours.	Regular activities.	Special activities.		
	Academic instruction.	Auditorium.	Play and physical training.	Cooking, shop, science, etc.
8.30- 9.20	.....	Division 2.....	Division 3.....	Division 1.
9.20-10.10	.....	Division 3.....	Division 2.....	Do.
10.10-11.00	Arithmetic—Divisions 1, 2, 3.....	.....	.....	.....
11.00-12.00	Language—Divisions 1, 2, 3.....	.....	.....	.....
12.00- 1.00	(Entire "B School" at luncheon.)	.....	.....	.....
1.00- 1.50	.....	Division 1.....	Division 3.....	Division 2.
1.50- 2.40	Reading—Divisions 1, 2, 3.....	.....	.....	.....
2.40- 3.30	History and geography—Divisions 1, 2, 3.....	.....	.....	.....

PRINCIPLE OF MULTIPLE USE MAKES MODERN EDUCATIONAL FACILITIES FINANCIALLY PRACTICABLE.

In other words, the work-study-play plan applies to the public school the principle on which all other public service institutions attempt to run, i. e., the principle of multiple use of facilities. The whole tendency in modern public utilities is to eliminate the peak load by using all facilities all the time; and the utility becomes more efficient and accommodates a larger number of people at less cost to the extent to which it balances its load. For example, it is evident that our transportation system is made possible because all people do not have to ride at exactly the same time. Public parks can be maintained by the city because they are not reserved for the exclusive use of any individual or group; the larger the city, and therefore the larger the number of people supporting them, the more extensive and beautiful the parks can be made. Hotels can accommodate thousands of people because they are not run on the principle of reserving each room for the exclusive use of a single individual during the entire year.

On the contrary, our public-school system up to the present time has been run on the principle of reserving a school seat for the exclusive use of one child during the entire year. All children have to be in school seats from 9 a. m. to 12 and from 1 to 3, and at 3 o'clock all of them are dismissed and turned out to play. The result is that there are never enough seats for all the children to study in, nor enough playgrounds for them to play in; and yet large sums of money are invested in these facilities, which the children can have the use of for only a fraction of the day. For example, thousands of dollars are invested in school auditoriums, and yet the average school auditorium is used regularly only 15 minutes a day. Thousands of dollars are invested in playgrounds, and yet these playgrounds are empty of children all day until 3 o'clock in the afternoon. In fact, if a child is found on the playground before 3 o'clock he is

driven off because he is playing truant. Obviously, the playgrounds exist for the use of the children, and yet children have the opportunity to use them only a few hours a day, because they must be in school seats from 9 to 12 and 1 to 3. Thousands of dollars are invested in school shops and science laboratories, and yet practically no child in the elementary schools has the opportunity to enter them until the seventh grade, and then for only a few minutes a week. Half the children in the country leave school before they reach the seventh grade.

There would, after all, seem to be no good reason why the principle of other public service institutions, i. e., multiple use of facilities all the time, should not apply to the school, nor any reason why all children should be in classrooms at the same time, nor why the special facilities should be used only a fraction of the day, provided, of course, that the children receive during the day the required amount of academic work. In fact, it is difficult to see how the problem of providing enough classrooms or playgrounds or auditoriums for the mass of children is ever to be met if all children have to be in classrooms at the same time and if all children have to play at once. Moreover, there seems to be no good reason from an educational standpoint why children should all have to do the same thing at the same time.

Fortunately, if the principle of multiple use is applied to public school facilities it is financially possible to provide not only adequate classroom accommodations, but also auditoriums, gymnasiums, laboratories, and shops for the mass of children. In fact, accommodations may be provided in all facilities, if they are in use constantly by alternating groups, at less cost than regular classrooms may be provided on the basis of a reserved seat for every child. For example, in a 50-class school, under the traditional plan, 50 classrooms are needed in addition to all other special facilities. Under the work-study-play plan only 25 classrooms are needed. Therefore, under this plan the cost of 25 additional classrooms is eliminated. The average cost of a classroom at the present time is \$12,000. Since only half the usual number of classrooms is required under the work-study-play plan, i. e., 25 classrooms in a 50-class school, the cost of the remainder is released for all the other special facilities. Chart II shows the waste in cubic feet, in cost, and in capacity in a building run on the traditional as compared with the same building organized on the work-study-play plan.

EDUCATIONAL ADVANTAGE OF THE PLAN—AN ENRICHED CURRICULUM.

The important point about the balanced-load plan, however, is not its economy, but the fact that it makes possible an enriched education for children. Under this plan the children not only have

A. TRADITIONAL PLAN OF SCHOOL ORGANIZATION.

I. Utilization of site

Use	Out door play ground.	Building	
number of square ft.	100 x 300		Waste
per pupil.	15		
Distribution of pupils	No pupils.	2,000	
Hours per day.		5	

II. Utilization of building.

1,800,000 cubic feet - cost \$ 750,000						
Use	Halls. Stairs. Toilets.	Gym-nasiums.	Auditoriums.	14 special rooms.	50 classrooms.	
Cubic capacity.	272,000	180,000	210,000	350,000	716,000	Waste
Percent of building.	15.1	10.1	11.7	19.4	39.8	
Distribution of pupils		No pupils.	No pupils.	No pupils.	2,000	
Hours in use.					5	

B. WORK-STUDY-PLAY PLAN - NO WASTE.

I Utilization of building.

1,400,000 cubic feet - cost \$500,000						
Use.	Halls. Stairs. Toilets.	Gym-nasiums.	Auditoriums.	14 special rooms.	25 class-rooms.	
Cubic feet	126,000	182,000	210,000	350,000	392,000	
Percent of building	14.0	13.0	15.0	25.0	28.0	
Distribution of pupils.		200	200	400	1,000	
Hours in use.		6	6	6	6	

II. Utilization of site.

Use	Out door play ground.	Building
number of square ft.	100 x 300	
per pupil.	200	250 x 175
Distribution of pupils	100	2,000 1,040
Hours per day.	6	6

CHART II.—Showing the waste of building space under the traditional plan of school organization as compared with the utilization of all space all the time under the work-study-play plan, or balanced load plan. Total number of pupils under either plan, 2,000.

Under the work-study-play plan, 1,000 pupils are in classrooms while 1,000 pupils are in special facilities. Under the traditional plan, all pupils are in classrooms at the same time, and when they go to the special facilities, the classrooms lie idle. For example, if any of the 2,000 pupils in classrooms go to the auditorium, the classrooms of those pupils remain vacant. What good is a vacant classroom to a child?

What good is an empty playground or auditorium or shop or laboratory to a child?

the same amount of time for reading, writing, arithmetic, geography, and history as formerly, 210 minutes, but also 50 minutes of play every day, 50 minutes of auditorium a day, and 50 minutes of shop-work every day in the week for a third of the year; science every day for a third of a year; and drawing and music every day for a third of a year.¹⁰ At present, children get in most schools a 10-minute recess period for play, a few minutes for opening exercises in the auditorium, and little or no time for special activities.

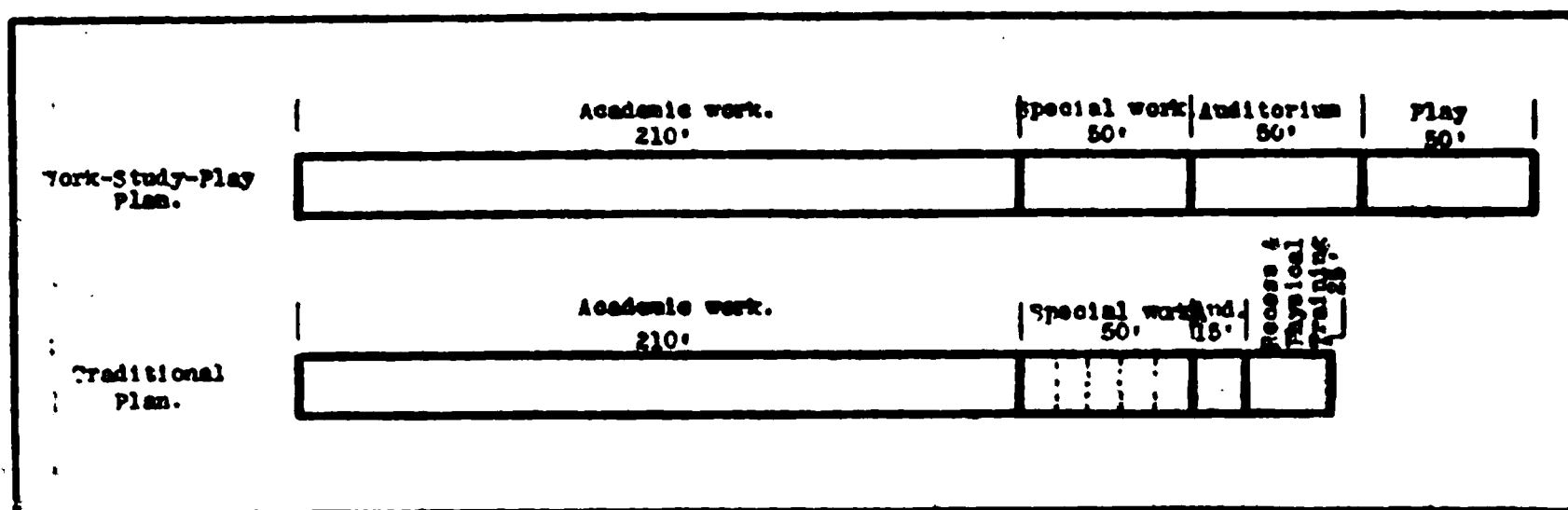


CHART III.—Daily allotments of time for academic work, special work, auditorium, and play, under the traditional plan and under the work-study-play plan of school organization.

EXPLANATION OF CHART III.

Academic Work:

In the *traditional school*, 210 minutes are given to reading, writing, arithmetic, geography, and history every day.

In the *work-study-play school*, 210 minutes are given to reading, writing, arithmetic, geography, and history every day.

Play:

In the *traditional school*, 25 minutes are given every day to recess, physical training, physiology, and hygiene.

In the *work-study-play school*, 50 minutes a day every day are given to play.

Special Activities:

In the *traditional school* 50 minutes are divided between 4 or 5 special subjects—drawing, music, shop, sewing, etc.—2 periods a week to some special subjects, and a few minutes a day to others.

In the *work-study-play school*, the year may be divided in 3 parts, and each child receives 50 minutes of science every day for a third of the year; 50 minutes of shopwork every day for a third of the year; and 50 minutes of music and drawing every day for a third of the year. Or these special subjects can be alternated by days, weeks, or months.

FLEXIBILITY OF THE PROGRAM MEETS INDIVIDUAL NEEDS OF CHILDREN.

A program based upon the multiple use of facilities also makes it possible to have a flexible program. After all, schools were created for children and not children for the schools, and it should be possible to adapt the program to meet the needs of individual children instead of making children conform to the program, as is too often the case. A study of the different types of work-study-play schools in different parts of the country shows that it is possible to adapt the program to the needs of different types of children and different types of communities.

¹⁰ See Chart III showing allotment of time for academic work, play, auditorium, and special work.

For example, a child who is backward in a special subject, such as arithmetic, and is being held back in a grade because he can not master that subject, and is growing discouraged because he has to repeat the whole year's work, can double up in arithmetic for a number of weeks by omitting the auditorium period until he has made up the work and is ready to go on with his grade in that subject. In the meantime he has not been held back in other subjects, but has progressed as rapidly in them as he is able to. Or if a child has a particular talent in some subject, he can, under this program, double his time in that subject by omitting his auditorium period a number of times a week and yet not lose any time from his regular work.

Again, it is possible to adjust the time of beginning or leaving school to meet the desires of parents. For example, it is possible to arrange to have the school begin at 8.30, 8.45, or 9 a. m., or any other hour desired. Or if the school begins at 8.30 and certain parents object to having their children leave for school so early, it is possible to put these children in the "B School," which begins the day with special activities; in this case the children can omit the play period or auditorium from 8.30 to 9.20 and arrive at school at 9.20. Or, again, many parents prefer to have their children take special music lessons after school. It often happens that home work or staying after school interferes with these lessons. Under the work-study-play plan it is possible to put such children in the "A School" and let them omit the play period or the auditorium in the afternoon from 2.40 to 3.30 p. m.¹¹ There is, of course, no reason why children should not be given credit for these out-of-school activities if so desired. As for the special facilities in school, each community and each section of the city can have the special facilities which the school authorities and the parents desire.

THE SCHOOL TAKES OVER THE STREET TIME OF THE CHILD.

As has been pointed out, one of the most undesirable elements in the life of city children is the street life in which they have hitherto spent so large a part of their time. The average city school is in session about 180 days in the year. Obviously, because of conditions of modern city life, it is necessary that the school take over some of the time now spent by the child on the city streets, especially during the school year. At present if 10 hours of the 24 are allowed for sleep and 6 for meals and home duties, there still remain 8 hours to

¹¹ The school day in Athens—9 a. m. to 2 p. m.—is altogether too short, for it leaves the children on the streets for practically half of every day. It is questionable whether it would be desirable to lengthen the day if it meant keeping children in school seats any longer, but in a work-study-play school the additional hours are spent in playgrounds, shops, laboratories, and auditoriums, which means that wholesome activity in play and in work is substituted for desultory loafing upon the city streets.

be accounted for. Even if the children were in school 5 hours every day, there would still be 3 hours left, and as is well known these hours are spent on the city streets, and not to the child's advantage. At least one or two of these should be taken over by the school, and wholesome activity in work and play provided.

The work-study-play plan does this by lengthening the school day an hour or two, as each community may desire, and by offering to the children the wholesome activity in shops and laboratories and on the playgrounds, which is so essential for them. It should be borne in mind, however, that this lengthening of the school day does not necessarily lengthen the number of teaching hours of any teacher. It is necessary that she be at the school 6 hours, but she need not teach more than 5 hours.

PRINCIPLES UPON WHICH THE PROPOSED BUILDING PROGRAM HAS BEEN WORKED OUT.

In planning the school building program for Athens the following aims have been kept in view:

First, to relieve existing congestion, and provide for growth for a period of at least 10 years.

Second, to consolidate the present small and inadequate plants into a small number of modern, up-to-date school buildings with adequate playgrounds, thus providing for the maximum educational opportunities for children as well as for community uses of the plant.

Like most cities, Athens is laboring under the handicap of having too many small buildings. Many small buildings are more expensive than a few large modern plants. They are more expensive in cost of upkeep as well as in initial cost. They also provide fewer modern facilities for the children. The larger the school within limits, the more economical it becomes and the richer the facilities that can be offered to children. A school of 1,200 pupils can afford such facilities as an auditorium, shops, gymnasium, laboratories, etc., whereas if the children were housed in two school buildings with separate sites, equipment, teaching force, janitorial service, and cost of upkeep, the total expense would be far greater. For example, a glance at Table 3 shows that the Athens public schools have spent during the past 10 years (1910-11 to 1919-20) \$50,120 on repairs, fuel and light, furniture and equipment, maintenance of grounds, and rent account. Of this amount, \$20,446 is for repairs alone, and the item for repairs in 1919-20 was twelve times as much as it was in 1910-11. These items are not given by schools, but if they were it would doubtless be found that the greatest expense for repairs was in the oldest schools. In other words, the maintenance of many old and decrepit plants is a waste of money.

TABLE 3.—*Cost of repairs, fuel and light, furniture and equipment, maintenance of grounds, rent account for public schools, by years, from 1910-11 to 1919-20, inclusive.*

	1910-11	1911-12	1912-13	1913-14	1914-15	1915-16	1916-17	1917-18	1918-19	1919-20	Total.
Repairs.....	\$531	\$1,200	\$1,329	\$1,265	\$1,429	\$1,979	\$2,285	\$1,956	\$2,092	\$6,381	\$20,446
Fuel and light.....	1,176	33	1,213	1,150	1,585	1,590	1,571	2,359	2,943	2,653	16,273
Furniture and equip- ment.....	1,397	445	1,371	629	756	988	1,917	1,144	465	662	9,804
Maintenance of grounds.....				134	194		22	56	7		412
Rents account.....		961	382	364	247	240	240	220	290	240	3,185
Total.....	3,104	2,639	4,295	3,542	4,211	4,797	6,035	5,734	5,797	9,966	50,120

As a matter of fact, Athens has barely enough children in all the white schools for one good-sized building, and the same is true of the Negro schools, but owing to the geographical conditions of the city it will doubtless be necessary to have at least one school for whites on the east side of the Oconee River and one on the west side. The same is true for the Negro schools. In the detailed building program, however, two alternate plans are given, the first providing for two schools for whites and two for Negroes, and the second plan providing for three each.

Third, the aim has been to work out a building program which will give modern school facilities to *all the children* in the public school system. Too often there is a tendency in communities to invest all the available funds in one or two buildings which can be used only by a minority of the children. This is neither democratic nor fair to the children of the city. The city's funds should be so spent that all children would receive an increase in the opportunity for a modern, all-round education. This is not only important from an educational standpoint, but is the most economical plan in the end, for if old buildings are allowed to continue without additions or improvements, far more money has to be spent on them in the end than if they had been renovated in time.

Fourth, two building programs are submitted. The first is a permanent building program, which shows what ought to be done in order to provide adequate modern school buildings and equipment. This building program, however, requires more funds than are available with the present contemplated bond issue of \$323,000. Therefore, a second building program has been outlined showing what it is possible to do with the bond issue of \$323,000.

It should be clearly understood that the permanent building program is not simply an idealistic outline of what it would be desirable to give the children of Athens, but that it is a program which it is financially possible for Athens to carry out if it is spread over a period of years. And the building program for the bond issue is planned to carry out as much as possible of the permanent building program at the present time. It is one thing to spend

\$323,000 to meet immediate needs with no consideration of the future; it is another to spend that amount as part of a statesmanlike plan for developing a modern school plant in the city. It is felt that Athens will not be satisfied with anything short of such a plan.

Fifth, the cost of the program has been worked out after careful study of building costs, not only in Athens but in the country as a whole. Furthermore, the costs have been estimated on the basis of actual drawings for the type of building recommended.

The present building costs are about 35 cents per cubic foot. It is estimated that soon they will be down to 30 cents per cubic foot. This makes the classroom cost of a building \$12,000 per classroom unit. "Classroom unit costs" include not only the cost of classrooms but of gymnasiums and auditoriums, corridors, stairs, principal's office, teachers' rest room, toilets. When additions are erected the classroom cost is about \$10,000, and the auditorium and gymnasium are estimated separately. In cases where the addition is attached to the school the cost has been given in accordance with the actual drawing and cubic foot cost.

THE IMPORTANCE OF EQUIPMENT.

The cost of equipment is based upon the most recent information of cost of equipment for each different kind of activity. The importance of providing modern equipment can not be too strongly emphasized. Up to the present time Athens in erecting its most recent building has made the mistake of providing only enough funds for the shell of the building and almost no funds for equipment. This is comparable to erecting a factory for turning out automobiles and providing no funds for machines or tools. It is futile to provide workshops for children without providing tools for them to use in the workshop; furthermore, an inadequate supply of tools is only a handicap and an exasperation.

IMPORTANCE OF FIREPROOF BUILDINGS.

The estimates of the cost of buildings will probably come as a surprise and a shock to many citizens. This is because Athens up to the present time has not been in the habit of erecting fireproof buildings for her children. She can not afford, however, not to change that policy. Great care is taken nowadays that modern office buildings in which adults work should be of fireproof construction. For example, one of the most recent office buildings erected in Athens is of that type, and cost over \$300,000. All modern factories are fireproof. A hospital just erected in Athens is fireproof and cost some \$300,000. A church recently erected cost \$200,000. Just around the corner from the board of education is a fine, modern, fireproof building for making ice cream, which cost \$50,000. Yet

there is not a public school building in Athens that cost \$50,000. Isn't the safety of 3,000 children as important as that of people who work in office buildings? Isn't it as important to protect children before they have to be sent to hospitals as after they arrive there? Isn't the preservation of children's lives and health as important as the preservation of cotton or ice cream?

Of course these questions answer themselves, and there is no community that would be quicker to answer in the affirmative than Athens, but like many cities it has up to the present time simply failed to realize that its children are no longer in little red school-houses, and that it must be prepared to spend as much on its school buildings as on its office buildings and factories.

The estimates given represent the amount being spent on school buildings in the country as a whole.

The aim in working out this building program has been to make it practicable for Athens to carry it out. One of the greatest difficulties in carrying out a modern school building program is that the average citizen does not visualize the modern type of school. Therefore the floor plans of such a school are given in Exhibits A and B.

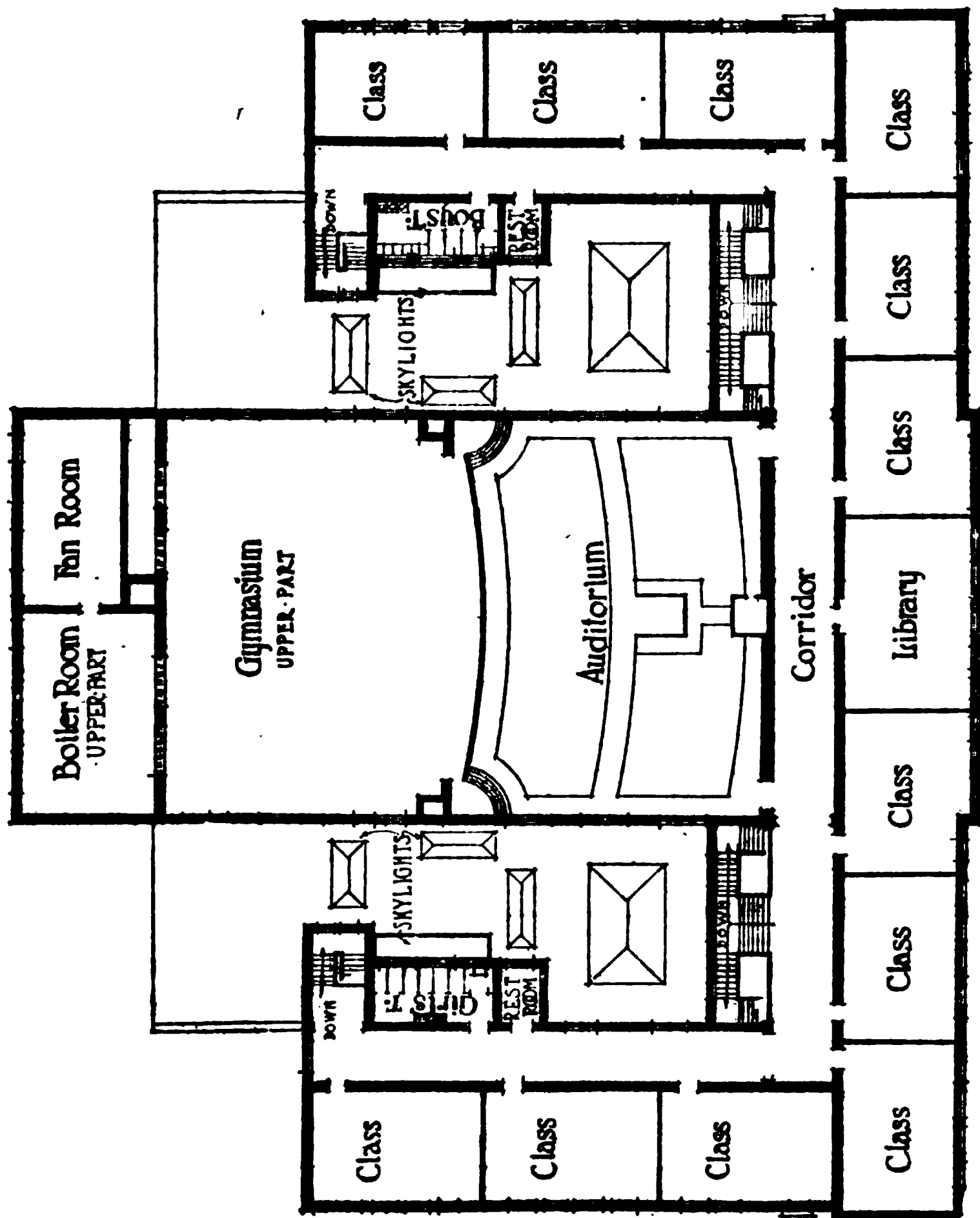
One of the advantages of the type of building recommended is that it can be put up gradually; that is, one floor can be erected and later a second added; or the whole of the first floor, with the exception of the gymnasium and auditorium, can be erected and these two facilities can be added later; or merely the outer perimeter of the first floor can be erected and the gymnasium, auditorium, domestic science and workshop added later. This means that, in the building program for the bond issue, it is possible to start three modern buildings instead of putting all the money into one.¹²

In the program recommended for the bond issue a certain number of portable additions are recommended, owing to the fact that the bond issue does not provide adequate funds for the complete building program. Two things should be clearly understood, however, about these portables. In the first place they are not of the usual type, but are of a modern, sanitary type that can be secured in separate units and combined into one building if so desired. It is possible to secure a classroom type, or an auditorium fully equipped, or a gymnasium, or shops, or cooking room. Every city should have a certain number of these portables, since the population is always moving and it is undesirable to erect a new permanent building until it is certain that the growth of population in a certain section is more or less permanent. Therefore, the portables recommended can always be used in different sections of the city as the school population moves.

¹² A full description of the building will be found in Appendix III.

SCHOOL
Scale 1/8" = 1'-0"

EXHIBIT A.---Junior High School, Buffalo, N. Y. This plan can be used for elementary schools, combination elementary and junior high school, junior high school or high school, and for any number of classes.



· Second · Floor · Plan ·

EXHIBIT B.—Junior High School, Buffalo, N. Y.

Scale 200 SCHOOLS.

RECOMMENDATIONS FOR A PERMANENT BUILDING PROGRAM FOR WHITE SCHOOLS.

Two alternate plans are suggested for the permanant building program for white schools. One provides for two white elementary schools and one high school; the other provides for three elementary schools and one high school.

PLAN 1.

This plan provides for housing all the children east of the Oconee River in the Oconee School, to which an addition should be built; for housing all the children west of the Oconee River in a new building to be erected on the Chase Street site; and for a new high-school building to be erected on the present high-school site.

1. *A new building for Childs, College Avenue, Baxter, and Nantahala.*—This building should include all the children at present in the above four schools and also the eighth grade from the high school. Such a school could not strictly be said to include junior high school organization, as there are not more than 8 grades, but as there are only 11 grades in the high school the ninth grade could not well be taken out without adding a twelfth to the high school. The buildings will be so constructed, however, that they can be added to in order to provide for these extra grades if desired.

The number to be provided for in this building would be as follows:

Childs.....	416
College Avenue.....	429
Baxter Street.....	305
Nantahala.....	220
Total.....	1,364
Eighth grade.....	132
Total.....	1,496
20 per cent increase in 10 years ¹	299
Total (for a 45-class school).....	1,795

This should be made into a 46-class school. It is understood throughout this report that a class is reckoned on the basis of an enrollment of 40 pupils per class.

Under the work-study-play plan, there would be needed 23 classrooms. There should also be 1 auditorium, 2 gymnasiums, and 13

¹ In estimating the percentage of increase of growth to be allowed for the next 10 years the following actors are considered: The per cent of increase in the last 10 years checked by the percentage of increase in the last 6 years—which covers the war period—and the location of the school. For example, the enrollment in Childs, College Avenue, Baxter, and Nantahala increased 24.5 per cent in the past 10 years, but in the last 6 years it increased by only 10 per cent, therefore it seems fair to allow for an increase of not more than 20 per cent for the next 10 years. In the case of the Negro schools the enrollment in the Newtown, West Athens, and Reese Street Schools has increased 64 per cent in the last 10 years but has fallen off in the last 6. But, because of the annexation of the new territory which has so greatly increased the enrollment in the West Athens School during the last year (50 per cent), it seems fair to allow for an increase of approximately 40 per cent in these three schools in the next 10 years.

special rooms. It is possible to have any kind of special rooms that the school authorities and parents desire. For example, they could be arranged as follows: Four shops for boys (manual training, print shop, forge, and metal shop), 1 cooking room and 1 sewing room, 1 mechanical drawing room and 1 freehand drawing room, 1 music room, 1 nature-study room for the younger children, 1 chemistry laboratory and 1 physics laboratory for the older children, and 1 library. This would make a school building of 36 units, without counting the auditorium and 2 gymnasiums.¹³

The cost of a 36-unit building at \$12,000 per unit would be \$432,000. The equipment would come to \$78,000, on the basis of \$2,000 for equipment per unit, counting 1 auditorium and 2 gymnasiums as an additional 3 units. The total cost then for the building and equipment would be \$510,000.

Under the traditional plan 23 additional classrooms would be needed. This would require another floor. The classroom cost in this case would be at the rate of \$10,000 each, or a total of \$230,000. The additional equipment would come to \$46,000. This makes the total cost for the building under the traditional plan \$786,000, as compared with \$510,000 on the work-study-play plan.

The objection might be made that consolidating all these schools into one makes the distance too great for the children to travel. As a matter of fact, no child would have to go more than a mile, and some children are already walking that distance to attend these schools, but even when they have to go as far as a mile, it is better to transport children to a modern up-to-date school than to try to accommodate them in small, inadequate buildings near home. The city has much to learn from the country in respect to the value of consolidating schools.

2. *An addition for Oconee School.*—The Oconee School should house all the children from the first grade through the eighth on the east side of the Oconee River. The enrollment to be provided for would be as follows:

Present enrollment, grades 1-6.....	250
Estimated number in seventh and eighth grades ¹⁴	80
Total.....	330
44 per cent increase in 10 years.....	145
Total (12 classes).....	475

This makes a school of 12 classes. Under the work-study-play plan 6 classrooms would be needed. The school should also have 1

¹³ See Exhibit A for type of building recommended. In order to adapt it to a 46-class school, 11 classrooms would have to be added either in a third story or to the wings.

¹⁴ The principal has a list of 75 children, 6-15 years of age, in the district, who at present are not attending public school.

auditorium, 1 gymnasium, and 4 special rooms, for example, 1 nature-study room, 1 manual-training room, 1 cooking room, and 1 drawing room. This makes 10 units.

There are at present available in the existing building 6 classrooms. An addition is therefore needed for this building. It is recommended

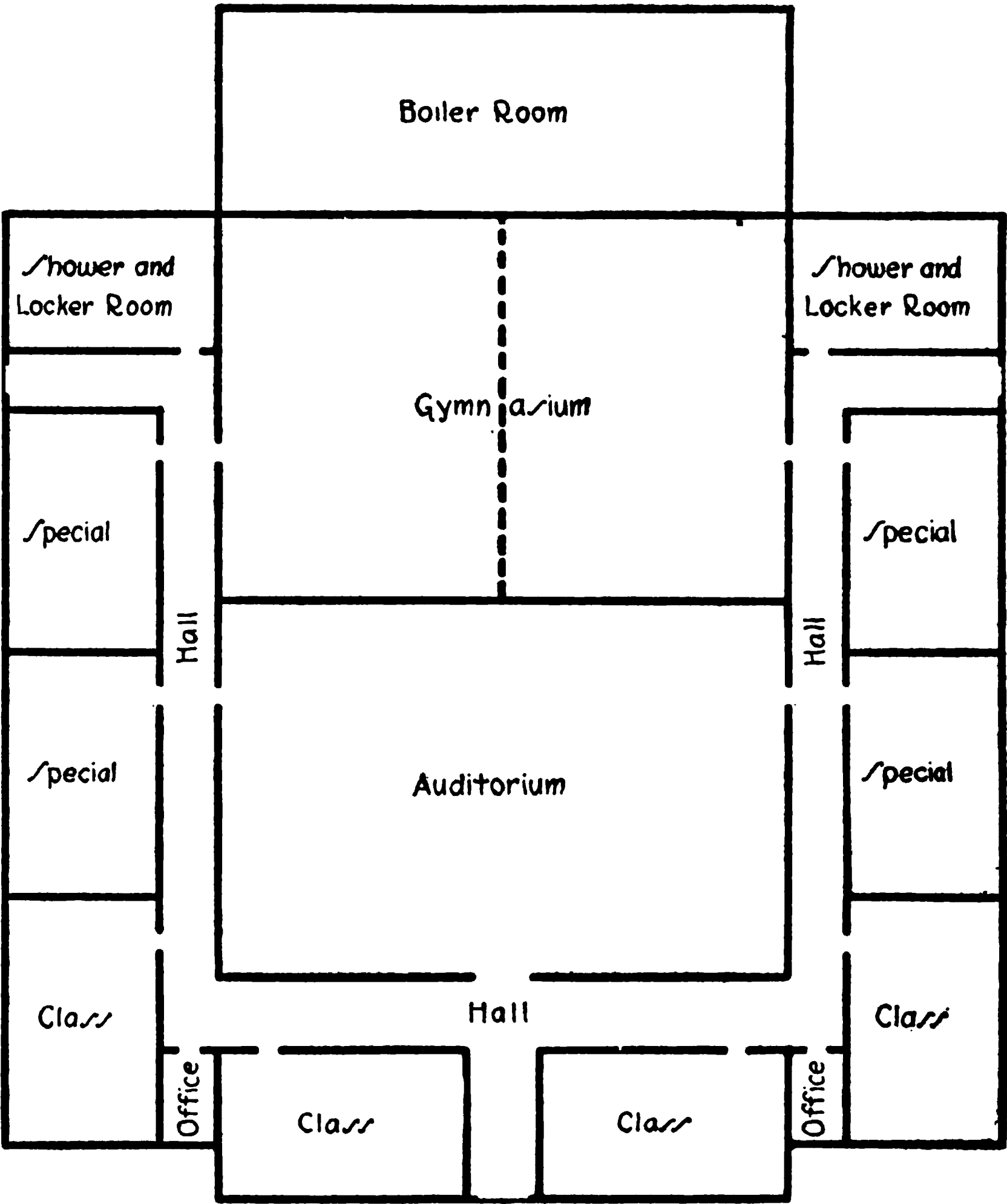


EXHIBIT C.—Suggested addition for Oconee School This plan, with the addition of two rooms, is also applicable for Baxter School.

that the 2 classrooms at the rear of the building be torn down, and an addition of 6 units, an auditorium and a gymnasium, be attached to the present building. The building thus reconstructed would have the auditorium and gymnasium on the ground floor directly facing the front door, and 2 wings on either side of that portion of the

building which now contains the 4 classrooms. A rough drawing of such an addition is given in Exhibit C.

The cost of such an addition would be \$112,120, and the equipment would be \$16,000, making a total of \$128,120. This cost is based upon the actual building plans for this school, herewith submitted.

Under the traditional plan six additional classrooms would be needed, at a cost of about \$60,000 plus equipment \$12,000, making a total of \$72,000, or a grand total under the traditional plan of \$200,120, as over against \$128,120 under the work-study-play plan.

3. *New building for the high school.*—The high school now has four grades—the eighth, ninth, tenth, and eleventh. It is proposed under this plan to make it a three-year school by sending the eighth grade to the new building, on Chase Street. The enrollment in the three grades is 213 pupils. Allowing for an increase of 56 per cent in the next 10 years, or 119 pupils, the number to be provided for is 332. Fortunately, the high school has ample grounds, but the present building, which is nothing but an old courthouse, should be torn down. A new building should be erected to contain 6 rooms for academic work in English, history, Latin, Spanish, mathematics, and French, and 14 special rooms arranged as follows: Science—1 chemistry room, 1 physics, 1 biology; shops—1 wood-working, 1 foundry, 1 forge, 1 machine shop, 1 pattern shop, 1 cooking, 1 sewing, 1 mechanical drawing, 1 freehand drawing, 1 library, and 1 music room.

This makes 20 units plus an auditorium and 2 gymnasiums. The cost of 20 units at \$12,000 would be \$240,000. The equipment of 23 rooms at \$2,000 would be \$46,000, making a total of \$286,000. When a building, however, is as small as this, the cost increases. Therefore, it is impossible to include the cost of the auditorium and gymnasium in the \$12,000 unit cost. It is necessary to provide an additional \$100,000 for the auditorium and gymnasium, making a total for the whole building of \$386,000. The equipment would be \$46,000. Under the traditional plan the cost will be practically the same, since the high school is departmentalized throughout.

SUMMARY OF COST OF DESIRABLE PERMANENT BUILDING PROGRAM
FOR WHITE SCHOOLS.

PLAN 1.—*On the basis of two elementary schools and one high school.*

(a) WORK-STUDY-PLAY PLAN—CAPACITY AND COSTS.

Buildings.	Number of pupils accommo- dated.	Cost of equipment.	Cost of buildings.	Total cost.
One new building for Childs, College Avenue, Baxter, and Nantahala..... 1,840 pupils. 46 classes. 23 classrooms. 13 special rooms. 1 auditorium. 2 gymnasiums.	1, 840	\$78, 000	\$432, 000	\$510, 000
An addition for Oconee School..... 1 auditorium. 1 gymnasium. 2 classrooms. 4 special rooms.	480	16, 000	112, 120	128, 120
A new building for the high school..... 332 pupils. 6 classrooms. 14 special rooms. 1 auditorium. 2 gymnasiums.	332	46, 000	386, 000	432, 000
Total.....	2, 652	140, 000	930, 120	1, 070, 120

(b) TRADITIONAL PLAN—CAPACITY AND COSTS.

One new building for Childs, College Avenue, Baxter, and Nantahala..... 1,840 pupils. 46 classes. 46 classrooms. 13 special rooms. 1 auditorium. 2 gymnasiums.	1, 840	\$124, 000	\$662, 000	\$786, 000
An addition for Oconee School..... 1 auditorium. 1 gymnasium. 4 classrooms. 4 special rooms.	480	28, 000	172, 120	200, 120
A new building for the high school..... 332 pupils. 6 classrooms. 14 special rooms. 1 auditorium. 2 gymnasiums.	332	46, 000	386, 000	432, 000
Total.....	2, 652	198, 000	1, 220, 120	1, 418, 120

PLAN 2.

Plan 2 is worked out on the basis of three elementary schools and a high school. The difference between plans 1 and 2 is that plan 2 provides for a new 6-grade building for Baxter School in addition to the new building for the Chase Street site. Although under ordinary circumstances it would be undesirable to put up such a small building as would be necessary for the Baxter School, yet on account of the distance from Chase Street and the development of the city in that direction the erection of a permanent building for the younger children in the sixth grade of the Baxter School might be justified. It depends entirely on whether the board of educa-

tion wishes to adopt the policy of having some small 6-grade schools. Under such a plan the following buildings would have to be provided for:

1. *A new building for Childs, College Avenue, Nantahala, seventh grade of Baxter, and the eighth grade from the high school.*—The number to be provided for would be as follows:

Childs.....	410
College Avenue.....	429
Nantahala.....	220
Seventh grade of Baxter.....	40
Eighth grade from the high school.....	132
Total (in a 30-class school).....	1,231
20 per cent increase in 10 years.....	246
Total (37 classes)	1,477

This should be made into a 38-class school. The number of classrooms needed would be 19, the number of special rooms 11, total units to be provided for 30, in addition to 1 auditorium and 2 gymnasiums.

The cost of 30 units, at \$12,000, would be \$360,000. The equipment would be \$66,000, or a total of \$426,000.

Under the traditional plan 19 more rooms would be needed, at a cost of \$10,000, or \$190,000. Additional equipment would be \$38,000, making an additional cost of \$228,000, or a grand total under the traditional plan of \$654,000, as over against \$426,000 under the work-study-play plan.

2. *A new building for 6 grades at Baxter School.*—The enrollment to be provided for would be as follows:

Enrollment minus seventh grade.....	265
11 per cent increase in 10 years.....	29
Total (8 classes).....	294

Under the work-study-play plan, it would be necessary to provide 4 classrooms and 4 special rooms—1 shop for boys, 1 cooking room, 1 nature-study and drawing room, 1 music room—making 8 units, together with an auditorium and gymnasium. The same plan for a building that is proposed for the Oconee School could be used for the Baxter School, with an addition of 2 classrooms. These two extra rooms would cost \$12,960, the equipment \$1,000, making a total of \$13,960. The cost of the Oconee School was \$128,120, which, in addition to the \$13,960, would make the total cost for Baxter \$142,080.¹⁵

Under the traditional plan, 4 additional classrooms would be needed at a cost of \$40,000, plus equipment \$4,000, making a total of \$44,000, or a grand total under the traditional plan of \$186,080.

¹⁵ See Exhibit C. The classrooms can be added at the front of the building or at the rear.

3. *An addition for the Oconee School.*—The plan and cost of this building would remain the same as under Plan 1, that is, \$128,120 under the work-study-play plan; or \$200,120 under the traditional plan.

PLAN 2.—*On the basis of three elementary schools and one high school.*

(a) WORK-STUDY-PLAY PLAN—CAPACITY AND COSTS.

Buildings.	Number of pupils accommodated.	Cost of equipment.	Cost of buildings.	Total cost.
One new building for Childs, College Avenue, seventh grade Baxter, Nantahala, and eighth grade..... 38 classes. 19 classrooms. 11 special rooms. 1 auditorium. 2 gymnasiums.	1,520	\$66,900	\$360,080	\$426,980
One new building for 6 grades of Baxter..... 8 classes. 4 classrooms. 4 special rooms. 1 auditorium. 1 gymnasium.	320	17,000	125,080	142,080
An addition for Oconee..... 1 auditorium. 1 gymnasium. 2 classrooms. 4 special rooms.	480	16,000	112,120	128,120
A new building for the high school..... 332 pupils. 6 classrooms. 14 special rooms. 1 auditorium. 2 gymnasiums.	332	46,000	386,000	432,000
Total.....	2,652	145,000	983,200	1,128,200
Land.....				5,000
Grand total.....				1,133,200

(b) TRADITIONAL PLAN—CAPACITY AND COSTS.

One new building for Childs, College Avenue, seventh grade Baxter, Nantahala, and eighth grade..... 38 classes. 38 classrooms. 11 special rooms. 1 auditorium. 2 gymnasiums.	1,520	\$104,000	\$550,000	\$654,000
One new building for 6 grades of Baxter..... 8 classes. 8 classrooms. 4 special rooms. 1 auditorium. 1 gymnasium.	320	32,000	212,120	244,120
An addition for Oconee..... 1 auditorium. 1 gymnasium. 4 classrooms. 4 special rooms.	480	28,000	172,120	200,120
A new building for the high school..... 332 pupils. 6 classrooms. 14 special rooms. 1 auditorium. 2 gymnasiums.	332	46,000	386,000	432,000
Total.....	2,652	210,000	1,220,240	1,530,240
Land.....				5,000
Grand total.....				1,535,240

RECOMMENDATIONS FOR A PERMANENT BUILDING PROGRAM FOR NEGRO SCHOOLS.

In 1910-11 there were 806 children in the Negro schools. In 1919-20 there were 1,065, an increase of 32.1 per cent in 10 years. There are at present four school buildings for Negro children, the High and Industrial School, West Athens School, and Newtown School, which take care of all the children to the west of the Oconee River; and the East Athens School, which takes care of all the children east of the Oconee River.

As is the case with the white schools, there are hardly enough children in the Negro schools to make one fair-sized school; but, because of the geographical location of the population, it is not possible to house all the children in one school. The East Athens School is in a district by itself and should be treated as a separate unit, taking care of all the children to the east of the Oconee River. All the children on the west side of the Oconee River should be housed in a new building to be erected for the High and Industrial School.

The detailed recommendations follow:

1. *A new building for the High and Industrial, West Athens, and Newtown Schools.*—Athens is justly proud of the fact that it has the first and only Negro high school in Georgia. Among the many educational achievements of Athens few are more significant than the development of this school. The fine spirit of the school and the progressive and thorough work being done there are things of which the city may well be proud. But even a slight study of the situation is sufficient to indicate that the needs of the school have far outgrown the building and equipment, and that it is now laboring under very serious handicaps in the matter of tools with which to carry on its work.

One of the most serious handicaps is the fact that the size of the school has been decreased by taking the lower grades out and sending them to the Newtown School, a building which should never have been used for school purposes. A glance at the enrollment figures shows that ever since the lower grades were taken out of the High and Industrial School, the net enrollment in the Newtown and High and Industrial districts has fallen off.¹⁶ For example, in 1916-17, when the High and Industrial School included grades 1-11, the enrollment for the two schools was 546, whereas in 1919-20 when the High and Industrial School had only grades 4-11 the enrollment for the two districts dropped to 325. This falling off is not due to fewer children in that part of the city, for in 1910-11 there were 456 west of the Oconee River and in 1919-20 there were 747, a gain of 291, or 64 per cent in 10 years. Moreover, there was no falling off in enrollment in the Newtown and Reese Street districts until the lower

¹⁶ See enrollment in public schools, 1913-14 to 1919-20 inclusive, Appendix IV.

grades were taken out of the High and Industrial School, 1918-19, when the enrollment in the elementary grades for these two districts dropped suddenly. There was no decrease in the West Athens district and there was none to speak of in the East Athens district in that year. It does not seem reasonable to suppose that the influenza epidemic hit this district so much harder than any other. Rather, it is reasonable to suppose that when children are transferred to a building like the Newtown School, they simply do not go to school. Failure on the part of the city to provide modern school buildings ultimately always means that fewer and fewer children get an education. Customers will not come to a business firm which is housed in an old, tumble-down, insanitary building; hence modern office buildings are erected. The children are the customers of the schools. Why should they be expected to go to school in an old insanitary building? What has it to offer them? There are no laws which can compel attendance in such a building as the Newtown School.

The West Athens School is a somewhat better building than the Newtown School, but it is an old, wooden frame structure, badly constructed, and with no modern facilities. The cost of reconstructing it would be out of all proportion to the original value of the plant. Furthermore, the number of children in the school is too small to justify erecting a new building for it.

In other words, it is important both from an educational and financial standpoint to house all the children on the west side of the Oconee River in a new building to be erected on the present High and Industrial School site. This would make a combination elementary and high school, the total enrollment of which would be about 1,200 children, or the minimum necessary for a modern, economical plant. The original cost of such a plant may seem large, but it should be remembered that by erecting such a school building the cost of maintaining three separate buildings is eliminated. The cost of this one plant would not only cover the cost of three separate day schools but it would also provide for the evening High and Industrial School. Therefore, the plan recommended represents the cost for four schools, not one. Furthermore, such a building would provide a school plant for Negro children which would not only be a credit to the city but an example to be followed by all the other cities in the State.

The objection might be made that the consolidation of these three schools in one plant at the High and Industrial School would necessitate children having to walk too long a distance to school. As a matter of fact, however, no pupil under such a consolidation would have a farther distance to walk than many pupils have to walk now. The districts at present overlap; for example, 10 pupils from the High and Industrial district go to Newtown School, and 41 pupils

from the Newtown district go to the High and Industrial School; 103 pupils from the West Athens district go to the High and Industrial School, and 68 pupils from the High and Industrial district go to the West Athens School. The majority of pupils in the West Athens district would not be more than a mile and a quarter from the High and Industrial School. At the present time there are pupils attending the Newtown School and the West Athens School who live a mile and a half from each of those schools.

The enrollment to be provided in this combination elementary and high school would be as follows:

High and Industrial High School.....	111
Elementary.....	163
Newtown.....	182
West Athens, 1920.....	291
Total.....	747
Increase in 10 years (39 per cent)	290
Increase in enrollment in West Athens due to extension of territory.....	109
Total (in 29 classes).....	1,146

Make this a school of 30 classes, that is, 6 high-school classes of 30 pupils each and 24 elementary classes of 40 pupils each. Providing merely for the activities at present carried on in the school, the number of classrooms and special rooms would be as follows: 4 classrooms for the high-school students for English, mathematics, Latin, and history; 12 elementary classrooms and 12 special rooms; for example, 1 chemistry laboratory, 1 physics laboratory, 5 shops (a foundry, forge, machine shop, woodworking, plastering), 1 cooking room, 1 sewing room, 1 mechanical drawing room, 1 music room, 1 library. The school now has all these subjects but no adequate rooms or equipment with which to teach them. There should also, of course, be an auditorium and 2 gymnasiums. This would make 28 units.

The cost of 28 units at \$12,000 would be \$336,000, and the cost of equipment would be \$62,000, making a total of \$398,000. This makes a per pupil cost of \$331, as over against a per pupil cost in the white high school of \$1,199.

Under the traditional plan 12 extra rooms would be needed at a cost of \$120,000 and equipment \$24,000, making a total of \$144,000 additional, or a grand total of \$542,000 under the traditional plan, as over against \$398,000 under the work-study-play plan.

2. *A new building for East Athens School.*—The present building for this school is an old wooden frame structure. It was built for 240 children and it contains 429. There are only 6 classrooms in the building, and these are nothing but bare rooms with the blackboards so placed that it is almost impossible for any children except those in the front row to read what is written on them. There is

no principal's office or teachers' rest room, and although the school is really a social center as well as a school where children are taken care of when they are sick or poorly clad, yet there are no cloakrooms and no rest room or clinic. There is no shop or cooking room, or auditorium or play room.

A new building should be erected which would serve both as a schoolhouse and a social center for this part of the town.

The enrollment to be provided for in this school is as follows:

Present enrollment.....	429
Sixth and seventh grades.....	80
Total.....	509
Eighteen per cent increase in 10 years.....	90
Total (in 15 classes).....	599

This should be a 16-class school (640 pupils). It will be necessary to have, in addition to an auditorium and a gymnasium, 8 classrooms and 6 special rooms, for example, 2 shops for boys, a cooking room, 1 sewing room, 1 drawing and nature study room, and 1 music room, making a total of 14 units. The total cost for this building would be \$200,000. This represents more than the \$12,000 unit cost, because a smaller building is always more expensive. The equipment for 16 units at \$2,000 would be \$32,000, making a total of \$232,000. Under the traditional plan 8 additional classrooms would be needed at a cost of \$80,000, which, with \$16,000 for additional equipment, would come to \$96,000, making a total cost under the traditional plan of \$328,000, as compared with \$232,000 under the work-study-play plan.

SUMMARY OF COST—PERMANENT BUILDING PROGRAM FOR NEGRO SCHOOLS.

On basis of one elementary school and one combination elementary and high school.

(a) WORK-STUDY-PLAY PLAN—CAPACITY AND COSTS.

Buildings.	Number of pupils accommodated.	Cost of equipment.	Cost of buildings.	Total cost.
New building for High and Industrial School, West Athens and Newtown, 30 classes, 1,200 pupils. 16 classrooms. 12 special rooms. 1 auditorium. 2 gymnasiums.	1,200	\$32,000	\$168,000	\$200,000
New building for East Athens..... 640 pupils. 8 classes. 4 classrooms. 4 special rooms. 1 auditorium. 1 gymnasium.	640	32,000	200,000	232,000
Total.....	1,840	64,000	368,000	432,000
Land.....				10,000
Grand total.....				442,000

On basis of one elementary school and one combination elementary and high school—Con.

(b) TRADITIONAL PLAN—CAPACITY AND COSTS.

Building.	Number of pupils accommodated.	Cost of equipment.	Cost of buildings.	Total cost.
New building for High and Industrial School, West Athens and Newtown..... 1,200 pupils. 30 classes. 28 classrooms. 12 special rooms. 1 auditorium. 2 gymnasiums.	1,200	\$86,000	\$456,000	\$542,000
New building for East Athens..... 640 pupils. 8 classes. 8 classrooms. 4 special rooms. 1 auditorium. 1 gymnasium.	640	48,000	280,000	328,000
Total.....	1,840	134,000	736,000	870,000
Land.....				10,000
Grand total.....				880,000

SUMMARY OF COST—PERMANENT BUILDING PROGRAM FOR WHITE AND NEGRO SCHOOLS.

PLAN 1.—(a) WORK-STUDY-PLAY PLAN—CAPACITY AND COSTS.

	Number of pupils accommodated.	Cost of equipment.	Cost of buildings.	Total cost.
White schools.....	2,652	\$140,000	\$980,120	\$1,070,120
Land.....				
Negro schools.....	1,840	94,000	536,000	630,000
Land.....				10,000
Total.....	4,492	234,000	1,486,120	1,710,120

PLAN 1.—(b) TRADITIONAL PLAN—CAPACITY AND COSTS.

White schools.....	2,652	198,000	1,220,120	1,418,120
Negro schools.....	1,840	134,000	736,000	870,000
Land.....				10,000
Total.....	4,492	332,000	1,956,120	2,298,120

PLAN 2.—(a) WORK-STUDY-PLAY PLAN—CAPACITY AND COSTS.

White schools.....	2,652	145,000	983,200	1,128,200
Land.....				5,000
Negro schools.....	1,840	94,000	536,000	630,000
Land.....				10,000
Total.....	4,492	239,000	1,519,200	1,773,200

PLAN 2.—(b) TRADITIONAL PLAN—CAPACITY AND COSTS.

White schools.....	2,652	210,000	1,320,240	1,530,240
Land.....				5,000
Negro schools.....	1,840	134,000	736,000	870,000
Land.....				10,000
Total.....	4,492	344,000	2,056,240	2,415,240

ATHENS HAS THE WEALTH TO CARRY OUT THE PERMANENT BUILDING PROGRAM PROPOSED.

The taxable wealth of Athens at present is given at \$14,900,000, including the recently annexed territory. It is possible to bond the city up to 7 per cent of the taxable wealth, \$1,043,000, but there are outstanding bonds at present for \$720,000, which leaves available at present for a bond issue \$323,000.

Taxable wealth of Athens, Ga.

Real property.....	\$8, 536, 125
Annexed territory.....	1, 400, 000
Personal property.....	4, 963, 875
<hr/>	
Total taxable wealth at 60 per cent property valuation.....	14, 900, 000

Considering the fact that such a small amount as \$323,000 is available for a school building program, it would seem that the preceding permanent building program, which calls for a minimum of \$1,710,120, is far beyond the financial capacity of the city to carry out. As a matter of fact, however, if the true wealth of the city is considered, it is not beyond the financial capacity of Athens to carry out the permanent program.

At the present time property in Athens is assessed at 60 per cent valuation. If it were assessed at a 100 per cent valuation, the true taxable wealth would be \$24,833,333. Therefore, the amount of money available for bonds, at 7 per cent of the taxable wealth, would be \$1,738,333. Deducting the \$720,000 for outstanding bonds, there would be left \$1,018,333 available for a bond issue, if property were assessed at a 100 per cent valuation.

The fact remains, however, that property at present is not assessed at 100 per cent valuation, and therefore only \$323,000 is available for school building purposes this year. Consequently, a school building program has been worked out on the basis of the expenditure of the \$323,000 now available. In planning such a program two things have been borne in mind—to give relief to the schools where the need is most pressing and to work out the program so that it will fit into the permanent building program, thus avoiding waste in future building plans. Recommendations for a building program on the basis of the proposed bond issue will now be given.

RECOMMENDATIONS FOR A BUILDING PROGRAM PLANNED ON THE BASIS OF A BOND ISSUE OF \$323,000.

It is obvious that almost any one of the new buildings planned would take most of the money now available to meet the needs of all the schools. Therefore it is undesirable to erect any one of the buildings in toto with the funds available in this bond issue, since that would make it impossible to give all the children increased

educational advantages. The funds have been so distributed in the following building program that *all* children will get the opportunity for healthy work and play as well as study in good classrooms. It is possible to accomplish this (1) by erecting parts of each of the buildings proposed and erecting them in such a way that they can be added to later on when additional funds are available; (2) by erecting modern portable units not only in the form of classrooms but of auditoriums, gymnasiums, shops, cooking rooms, and science rooms, so that all children may have the opportunity for these activities whether they are in temporary or permanent structures.

THE SCHOOLS MOST IN NEED OF RELIEF.

Baxter School, Oconee School, and the combination elementary and high school for Negro children are the schools which need relief immediately; the Baxter School because the building is utterly unfit for school purposes, and is in far worse condition than any other white school; the Oconee School because the congestion there is greater than in any other white school; and the combination elementary and high school for Negro children, because by starting this building the needs of three schools can be taken care of at once, whereas, if this were not done, it would be necessary to go to the expense of three sets of portable buildings, which would be an economic waste.

Both Childs and College Avenue Schools are fairly modern buildings, and if organized on the work-study-play plan there is plenty of room in these buildings not only for present enrollment but for growth for five years. The only additions needed would be a portable auditorium and gymnasium. No permanent building should be provided for Nantahala pending its inclusion in the new school building which should be erected for Childs, College Avenue, and Nantahala, but special facilities can be given to these children by means of modern portable auditorium, gymnasium, and shops. The needs of East Athens can also be taken care of by the addition of special facilities until a new building can be put up under the permanent building program.

RECOMMENDATIONS FOR THE WHITE SCHOOLS.

1. *A new building for Baxter School.*—The enrollment to be provided for in this school, allowing for 11 per cent increase in 10 years, is 338 children, or 8 classes. The whole of the building recommended in the permanent building program—4 classrooms, 1 shop for boys, 1 cooking room, 1 nature-study and drawing room, 1 music room, auditorium, and gymnasium—can be erected with the exception of the auditorium and gymnasium. The cost would be \$57,960. (See

Exhibit C for plan of building.) The equipment would be \$8,500, making the total cost of the building \$66,460. It is possible to secure a portable auditorium 30 by 60 feet, fully equipped with opera chairs and stage, for \$3,500,¹⁷ and a portable gymnasium for the same amount. These units are eminently satisfactory, well lighted, well heated, and well adapted to the purposes for which they are built. The total cost, then, for Baxter School would be \$73,460.

Under the traditional plan, four additional rooms would be needed at a cost of \$40,000, which, with \$2,000 for additional equipment, makes a total of \$42,000, or a grand total, under the traditional plan, of \$115,460, which would be prohibitive with the funds available in the present bond issue.

2. *A new building for Oconee School.*—The enrollment to be provided for in this school is as follows:

Present enrollment, grades 1-6.....	250
Estimated number in seventh and eighth grades.....	80
Total.....	330
44 per cent increase in 10 years.....	145
Total in 12 classes.....	475

As was pointed out in the permanent building program, six classrooms would be needed under the work-study-play plan. The school should also have one auditorium, one gymnasium, a nature study room, manual-training room, and drawing room. This makes 10 units.

There are available in the existing building 6 classrooms. The addition proposed would be added at the rear of the building, after the two rear classrooms had been torn down. This building would contain six units, an auditorium, and gymnasium.

The whole of this addition with the exception of the auditorium and gymnasium could be erected with the funds available in the present bond issue. The cost of the building minus the gymnasium and auditorium would be \$45,000 and the equipment \$7,500, making a total cost of \$52,500. It would be necessary to erect a portable auditorium for \$3,500 and a portable gymnasium for the same amount, making a total cost for this school of \$59,500. The only difference from the plan proposed in the permanent building program would be that the auditorium and gymnasium would be in portable buildings for the present.

Under the traditional plan six more classrooms would be needed, \$60,000, with \$3,000 for equipment, making \$63,000, or a total of \$122,500.

3. *Childs Street School.*—This school is now housed in a comparatively new school building, fairly modern. It has eight classrooms

¹⁷ Cost of portable auditorium \$1,800, foundation and cost of erection \$700, installation of electric lights, plumbing, and heating, approximately \$1,000.

and three rooms in the basement, one now used as a classroom and another as a cooking room, with a small room for sewing. There is also a vacant room in the basement, which could be used as a shop. The enrollment is now 410 pupils, and a 20 per cent increase in five years would make 492 pupils, or 12 classes to provide for.

Under the work-study-play plan six classrooms would be needed, and there should be four special rooms—for example, one manual-training shop, one nature-study room, one cooking room, and one drawing room. This makes a total of 10 units, but there are already 11 rooms in the building. The eleventh room could be used for a library if so desired, or a music room, or a teachers' rest room. Therefore, the only thing to provide for in this school is a portable auditorium and gymnasium, \$7,000. There is plenty of space on the grounds for the erection of these two units.

It will be necessary, however, to have equipment for the boys' shop, \$2,000, and for the cooking room, \$3,000. Furthermore, an additional item of \$5,000 should be provided for repairs around the building, for the toilets, etc., and for equipment for the playground. The total cost for this school under the work-study-play plan would be as follows:

Movable auditorium.....	\$3, 500
Movable gymnasium.....	3, 500
Equipment for boys' shop.....	2, 000
Equipment for cooking so it can be used as a cafeteria.....	3, 000
For repairs, plumbing, playground equipment, etc.....	5, 000
	<hr/>
	17, 000

Under the traditional plan it would be necessary to have 6 additional portable classrooms at a cost of \$1,000 each, which would make the total cost under the traditional plan \$23,000.

4. *College Avenue School.*—This school is also housed in a comparatively new building of 13 rooms. As a permanent proposition it would be most undesirable to keep two small buildings like the College Avenue and Childs Street Schools, but inasmuch as the amount available in the bond issue is so limited, it will be necessary to use this building for the time being, and there is ample room in it if the school is organized on the work-study-play plan.

The present enrollment is 429 pupils. Make it into a 12-class school. There has been practically no increase in the past 10 years, due to the fact that the children have been transferred to the Childs Street School; under the work-study-play plan it would be necessary to have 6 rooms and 4 special rooms, 1 manual training shop, 1 nature study room, 1 cooking room, and 1 drawing room, or a total of 10 units.

But this building has 13 rooms. Therefore, 10 of them can be used for the classrooms and special rooms and the partitions between the cooking room and the 2 rooms on either side of it on the

second floor can be torn out and these 3 rooms made into an auditorium. A portable gymnasium should be put up on the grounds to the north of the building. Additional equipment will be needed and the additional cost will be as follows:

Gymnasium.....	\$3, 500
Equipment for shop.....	2, 000
Equipment for cooking room.....	2, 000
Playground equipment, etc.....	2, 000
Repairs.....	2, 000
Total.....	11, 500

Under the traditional plan 6 more classrooms would be needed, \$6,000, and there is no space on the school grounds on which to erect them. The total cost would be \$17,500.

5. *Nantahala School*.—This district needs not only adequate classroom facilities but a school plant which will be a social center for the neighborhood. It needs particularly an auditorium for meetings, plays, etc., and a gymnasium for recreation in the evening as well as in the day. But the school is too small to justify the erection of a permanent building now, in view of the fact that in a permanent building program Nantahala should be combined with Childs and College Avenue and the seventh and eighth grades of Baxter in a new building on Chase Street.

It is important, however, that the children in these schools, pending the erection of such a building, should have facilities for shops, nature study rooms, auditoriums, and gymnasiums, and it is possible to provide such facilities by the addition of portable units equipped for these activities.

The net enrollment at present is 220. Allowing for 14 per cent increase in five years, at which time a permanent building program should be carried out, there are 250 children, or eight classes, to provide for. Four classrooms and four special rooms would be sufficient. At present there are available six rooms, i. e., counting as one the two rooms that were originally made out of one. Four of these rooms could be used as classrooms, one could be used as a nature study room, and one as a drawing room. It would then be necessary to provide portable buildings for the following units:

Auditorium.....	\$3, 500
Gymnasium.....	3, 500
Shop.....	2, 000
Cooking room.....	3, 000
Repairs and play equipment.....	2, 000
Total.....	14, 000

Under the traditional plan four more classrooms would be needed, \$4,000, making a total cost of \$18,000. About \$5,000 would be needed for additional land under the work-study-play plan and \$20,000 under the traditional plan.

NEGRO SCHOOLS.

Two alternate plans are submitted for the Negro schools. The first, which would be by far the most economical in the long run, has been worked out on the basis of providing for two Negro schools, one at East Athens and one on the present High and Industrial School site. This latter school would be a consolidation of the High and Industrial, West Athens, and Newtown Schools, and it is proposed that the first floor of the new building recommended in the permanent building program be erected now to accommodate these pupils. The second plan is worked out on the basis of providing for three Negro schools—one at East Athens, one at West Athens, and one at the High and Industrial, which would combine the High and Industrial and Newtown Schools.

PLAN 1.

1. *A new building for the High and Industrial School and West Athens and Newtown Schools.*—The enrollment to be provided for in these three schools is as follows:

High and Industrial:

High school.....	111
Elementary.....	163
Newtown.....	182
West Athens, 1920.....	291
Total.....	747
Increase in 10 years (39 per cent).....	290
Increase in enrollment in West Athens, due to extension of territory.....	109
Total (in 29 classes).....	1,146

Over a 10-year period this should be counted as a 1,200 pupil, or a 30 class school, but the actual number to be provided for at present would be 856 pupils, of whom 745, or 20 classes, are elementary school pupils. It will be necessary, then, to provide 4 rooms for high-school pupils—for English, mathematics, Latin, and history—and 10 classrooms under the work-study-play plan for the 20 elementary classes.

The present building has 8 classrooms and 1 small room in the basement used as a shop. There is also an additional building with a cooking room and sewing room. By erecting the outer perimeter of the first floor of the proposed new building for this school (see diagram of building in Exhibit A), 12 permanent rooms would be provided, which could be used either as classrooms or as shops. These 12 rooms, with the 11 already available, would make 23 units. Fourteen of these would have to be used as classrooms, as indicated above. This would leave the shop in the basement of the present building, the present cooking and sewing room, and six units in the new building which would be used for special activities—one for

science, one for drawing, and four for shops, making, with the existing facilities, nine special activity rooms for the whole school.

The cost of erecting this portion of the permanent building would be \$78,631, the equipment would be \$27,000, making a total cost of \$105,631. It would be necessary to have a portable gymnasium and auditorium, \$7,000, and it would also be necessary to set aside \$5,000 to buy additional land for the building and playground. This makes a total cost of \$112,631 for the building and equipment and \$5,000 for the land.

It would appear from these figures as though more money were being spent on this one school than on any other item, but it should be remembered that this amount of money is being spent on three schools. As a matter of fact, the per capita building cost for this school is only \$98, as over against \$125 for the addition to Oconee School, and \$250 for the Baxter School; and if the night school, with its enrollment of 200, is counted in, as it should be, the per capita cost would be even less. In other words, the most economical method of meeting the very great congestion in the Negro schools is by consolidating these three schools in a modern up-to-date plant, the first floor of which can be erected at this time. But such consolidation without adequate accommodations would be out of the question.

It would be desirable to erect this part of the permanent building for these three Negro schools at the earliest possible date, not only because it is the best solution of the housing problem, both from an educational and a financial standpoint, but also because such an addition, with adequate shop facilities, will greatly aid in carrying out the rest of the building program. The shop work done in this school is exceptionally good, and there is no reason why the erection of the portable buildings, both for this school and the other schools, should not be carried on as part of the practical shop work of the High and Industrial School. This would be desirable from an educational standpoint for the student in the High and Industrial School, and would make the erection of the portable buildings more economical than would otherwise be the case.

Under the traditional plan it would be necessary to have 10 additional classrooms, at a cost of nearly \$100,000, with \$10,000 for equipment, making an additional \$110,000, or a grand total under the traditional plan of \$222,631, which would make the erection of this building impossible under the present bond issue.

NUMBER OF TEACHERS NEEDED IN THE CONSOLIDATION OF THE HIGH AND INDUSTRIAL SCHOOL, WEST ATHENS AND NEWTOWN.

The question might be raised as to whether there are sufficient teachers for this consolidation. At present in the three schools there are 15 regular teachers and 4 specials, or 19 in all, and 3 princi-

pals. Under the consolidation under the work-study-play plan, there would be needed in addition to the principal of the whole school, 4 high-school teachers, 10 elementary teachers, and 5 special teachers—science, drawing, head of manual work, cooking, sewing—exclusive of the other 4 shop teachers; 1 auditorium teacher, and 2 gymnasium teachers. That makes a total of 22 teachers, exclusive of the 4 shop teachers. But there are available 22 teachers in addition to the principal, so that there are at present available sufficient teachers for the consolidated school with the exception of a supervisor for the primary grades and the 4 shop teachers.

With regard to the shop teachers, it is recommended that the plan carried out in some school systems of employing regular artisans for this work be adopted in this school. Under such a plan the men who teach shop work are artisans who are employed to work 8 hours a day to do the repairs and construction about the building, and the boys who elect to work with them on this practical work.¹⁸ Under such a plan there is no danger of shop work degenerating into an academic subject, as too often happens. Furthermore, under such a plan the shop work can be made self-supporting, as is done in some school systems.

2. *East Athens School.*—The present enrollment in the East Athens School is 429 pupils. With a 10 per cent increase for 5 years it would be 471, or 12 classes. It is impossible to erect even a part of the permanent building for this school with the present bond issue, but it is possible to give modern school facilities to the children in portable shops, auditorium, and gymnasium.

Under the work-study-play plan it would be necessary to have six classrooms and four special rooms, together with an auditorium and gymnasium. There are at present available in the building six rooms. Two of the best of these rooms could be used as classrooms, the others could be used for shops. It would then be necessary to erect portable units as follows:

One auditorium.....	\$3, 500
One gymnasium.....	3, 500
Four classrooms.....	4, 000
Equipment for shop.....	1, 000
Equipment for cooking.....	2, 000
	<hr/>
	14, 000
General repair.....	2, 000
To make it a unit.....	4, 000
	<hr/>
Total.....	20, 000

The total cost of this building would be \$20,000. Under the traditional plan six more classrooms would be needed, at a cost of \$6,000; total, \$26,000.

¹⁸ The productive shop work in the public schools of Gary, Ind., is one example of how such work has been organized.

PLAN 2 FOR NEGRO SCHOOLS.

The program for the Negro schools above described is strongly recommended as the most economical and satisfactory building program for the funds available. Plan 2 providing for three Negro schools instead of two would necessitate temporary portable structures for the High and Industrial School and West Athens School, and would be expensive in the long run. The cost for the Negro schools under such a plan would be \$101,000 instead of \$132,631, but there would be the additional cost of maintaining three plants instead of two. Furthermore, when the schools are combined and a new building erected, the city would be left with \$55,000 worth of portable buildings on its hands, which is more than the original difference in cost between the two plans.

SUMMARY OF COST OF BUILDING PROGRAM ON THE BASIS OF THE \$323,000 BOND ISSUE.

Plan 1.

(a) WORK-STUDY-PLAY PLAN—CAPACITY AND COSTS.

Buildings.	Number of pupils accommodated.	Cost of equipment.	Cost of buildings.	Total cost.
WHITE SCHOOLS.				
New building for Baxter School..... 320 pupils. 8 classes. 4 classrooms. 4 special rooms. 1 portable auditorium..... \$3,500 1 portable gymnasium..... 3,500	320	\$8,500	\$64,960	73,460
An addition for Oconee School..... 480 pupils. 12 classes. 6 classrooms. 4 special rooms. 1 portable auditorium..... \$3,500 1 portable gymnasium..... 3,500	480	7,500	52,000	59,500
Two portables for Childs School..... 480 pupils. 12 classes. 1 auditorium..... \$3,500 1 gymnasium..... 3,500 Equipment, shop..... 2,000 Equipment, cooking..... 3,000 Repairs..... 5,000	480	5,000	12,000	17,000
One portable for College Avenue..... 480 pupils. 12 classes. 1 gymnasium..... \$3,500 Equipment, shop..... 2,000 Equipment, cooking..... 2,000 Equipment: Playground..... 2,000 Repairs..... 2,000	480	6,000	5,500	11,500
Four portables for Nantahala..... 320 pupils. 8 classes. 1 auditorium..... \$3,500 1 gymnasium..... 3,500 1 shop..... 2,000 1 cooking room..... 3,000 Repairs..... 2,000	320	.....	14,000	14,000
Total.....	2,080	27,000	148,460	175,460
Land.....				5,000
Total for white schools.....				180,460

Plan 1—Continued.

(a) WORK-STUDY-PLAY PLAN—CAPACITY AND COSTS.

Buildings.	Number of pupils accommodated.	Cost of equipment.	Cost of buildings.	Total cost.
NEGRO SCHOOLS.				
One floor of new building for High and Industrial School, West Athens and Newtown Schools.....	1,200	\$27,000	\$85,631	\$112,631
1,200 pupils.				
30 classes.				
6 classrooms.				
6 special rooms.				
1 portable auditorium.....				\$3,500
1 portable gymnasium.....				3,500
Six portables for East Athens.....	480	3,000	17,000	20,000
480 pupils.				
12 classes.				
1 auditorium.....				\$3,500
1 gymnasium.....				3,500
4 classrooms.....				4,000
Equipment, shop.....				1,000
Equipment, cooking.....				2,000
Repairs.....				2,000
To make single unit of building.....				4,000
Total.....	1,680	30,000	102,631	132,631
Land.....				5,000
Total for Negro schools.....	1,680	30,000	102,631	137,631
Grand total for white and Negro schools.....	3,760	57,000	251,091	318,091

(b) TRADITIONAL PLAN—CAPACITY AND COSTS.

WHITE SCHOOLS.				
New building for Baxter School.....	320	\$10,500	\$105,960	\$116,460
320 pupils.				
8 classes.				
8 classrooms.				
4 special rooms.				
1 portable auditorium.....				\$3,500
1 portable gymnasium.....				3,500
An addition for Oconee School.....	480	10,500	112,000	122,500
480 pupils.				
12 classes.				
12 classrooms.				
4 special rooms.				
1 portable auditorium.....				\$3,500
1 portable gymnasium.....				3,500
Eight portables for Childs School.....	480	5,000	18,000	23,000
480 pupils.				
12 classes.				
1 portable auditorium.....				\$3,500
1 portable gymnasium.....				3,500
6 classrooms.....				6,000
Equipment, shop.....				2,000
Equipment, cooking.....				3,000
Repairs.....				5,000
Seven portables for College Avenue.....	480	6,000	11,500	17,500
480 pupils.				
12 classes.				
1 portable gymnasium.....				\$3,500
6 portable classrooms.....				6,000
Equipment, shop.....				2,000
Equipment, cooking.....				2,000
Equipment, play.....				2,000
Repairs.....				2,000
Eight portables for Nantahala.....	320		18,000	18,000
320 pupils.				
8 classes.				
1 portable auditorium.....				\$3,500
1 portable gymnasium.....				3,500
4 portable classrooms.....				4,000
1 shop.....				2,000
1 cooking room.....				3,000
Repairs.....				2,000
Total.....	2,080	32,000	265,460	297,460
Land.....				20,000
Total for white schools.....	2,080	32,000	265,460	317,460

Plan 1—Continued.

(b) TRADITIONAL PLAN—CAPACITY AND COSTS—Continued.

Buildings.	Number of pupils accommo- dated.	Cost of equipment.	Cost of buildings.	Total cost.
NEGRO SCHOOLS.				
Two floors of new building for High and Industrial, West Athens and Newtown.....	1,200	\$37,000	\$185,631	\$222,631
1,200 pupils.				
30 classes.				
16 classrooms.				
6 special rooms.				
1 portable auditorium.....				\$3,500
1 portable gymnasium.....				3,500
Twelve portables for East Athens.....	480	3,000	23,000	26,000
480 pupils.				
12 classes.				
1 auditorium.....				\$3,500
1 gymnasium.....				3,500
10 classrooms.....				10,000
Equipment, shop.....				1,000
Equipment, cooking.....				2,000
Repairs.....				2,000
To make single unit of building.....				4,000
Total.....	1,680	40,000	208,631	248,631
Land.....				5,000
Total for Negro schools.....	1,680	40,000	208,631	253,631
Grand total for white and Negro schools.....	3,760	72,000	474,091	571,091

Plan 2 is given chiefly in order to illustrate the expense of patch-work methods and of maintaining a number of small plants. *It is strongly urged that it should not be adopted.*

NEGRO SCHOOLS—PLAN 2—NOT RECOMMENDED FOR ADOPTION.

1. *An addition of portable buildings to the High and Industrial School.*—The High and Industrial School and Newtown School should be consolidated and the children sent to the High and Industrial. A number of portable buildings could be erected and made into a single building and enough land bought to square the lot on which the High and Industrial School now stands. The number of classes to be provided for would be as follows:

Enrollment:	
High and industrial—	
High school.....	111
Elementary.....	163
Newtown.....	182
Total.....	456
Twenty per cent increase in 5 years.....	91
Total (in 14 classes).....	547

This makes a school of 4 high-school classes and 11 elementary classes. Under the work-study-play plan it would be necessary to have the following accommodations: One auditorium, 1 gymnasium, 4 classrooms for the high school, and 6 for the elementary classes, or a total of 10; special rooms, 1 chemistry laboratory, 1 physics laboratory, 5 shops—woodworking, forge, painting and plastering, brick masonry (these already exist for evening school students, but

they are scattered over the city in private shops), 1 cooking room for girls, a dressmaking room, 1 nurse training room, 1 mechanical drawing, and 1 music room. This makes 12 units, or a total of 22 units needed. There are available 8 classrooms in the present building and 2 rooms for cooking and sewing in an annex. The room now used in the basement of the present building for a workshop could be used as a storeroom and stockroom.

The eight rooms in the present building can be used for classrooms, and for the present the cooking and sewing rooms can still be used for that purpose if additional equipment is provided. That leaves 12 rooms to be provided. This can be done by erecting modern portable buildings. These buildings can be secured in the form of an auditorium, gymnasium, classrooms, and special rooms, and all of them can be so set up as to form a single building with a corridor down the center, with a principal's office, store, heating plant, showers, and toilets. The cost would be as follows:

One auditorium	\$3, 500	To make these units into a single	
One gymnasium.....	3, 500	building with heating plant....	\$10, 000
Two classrooms.....	2, 000		
Two science laboratories.....	4, 000		45, 000
Five shops:		300 modern single seats and desks	
Woodworking.....	2, 000	to replace the present double	
Forge.....	4, 000	desks	3, 000
Machine shop	7, 000		48, 000
Painting and plastering.....	500	Repairs.....	3, 000
Brick masonry.....	500		51, 000
Additional equipment for cooking		Additional land	5, 000
and sewing.....	2, 000		
One mechanical drawing room...	2, 000	Total.....	56, 000
One music room.....	2, 000		
One nurse training room.....	2, 000		
	35, 000		

Under the traditional plan it would be necessary to have six additional classrooms at a cost of \$6,000, or a total of \$57,000.

2. *Portable buildings for the West Athens School.*—The enrollment in the West Athens School in 1921 was 400, or 10 classes. Allowing for growth of 2 classes, it would be necessary to provide for 480 pupils, or 12 classes. Under the work-study-play plan it would be necessary to have 6 classrooms, 4 special rooms, an auditorium, and a gymnasium. There are available in the present building 6 rooms. With this it will be necessary to erect 4 portable units, an auditorium, and gymnasium. The cost would be as follows:

One auditorium	\$3, 500	General repair.....	\$2, 000
One gymnasium.....	3, 500	To make a single building unit..	4, 000
One shop.....	2, 000		
One cooking room	3, 000	Total.....	20, 000
One nature study room	1, 000	Land.....	5, 000
One drawing room.....	1, 000		
	14, 000	Total.....	25, 000

seven cities had a higher tax rate than Athens. Only 39 had a lower rate.¹⁹

Athens stands eleventh from the bottom of the list of 45 cities in its per capita expenditure for schools.—Furthermore, when Athens is compared with other cities of the same population group, with respect to its per capita expenditure for current school expenses, it is found that its per capita expenditure for public schools for 1917-18 was \$32.46, whereas, the average for the 25 cities cited in the accom-

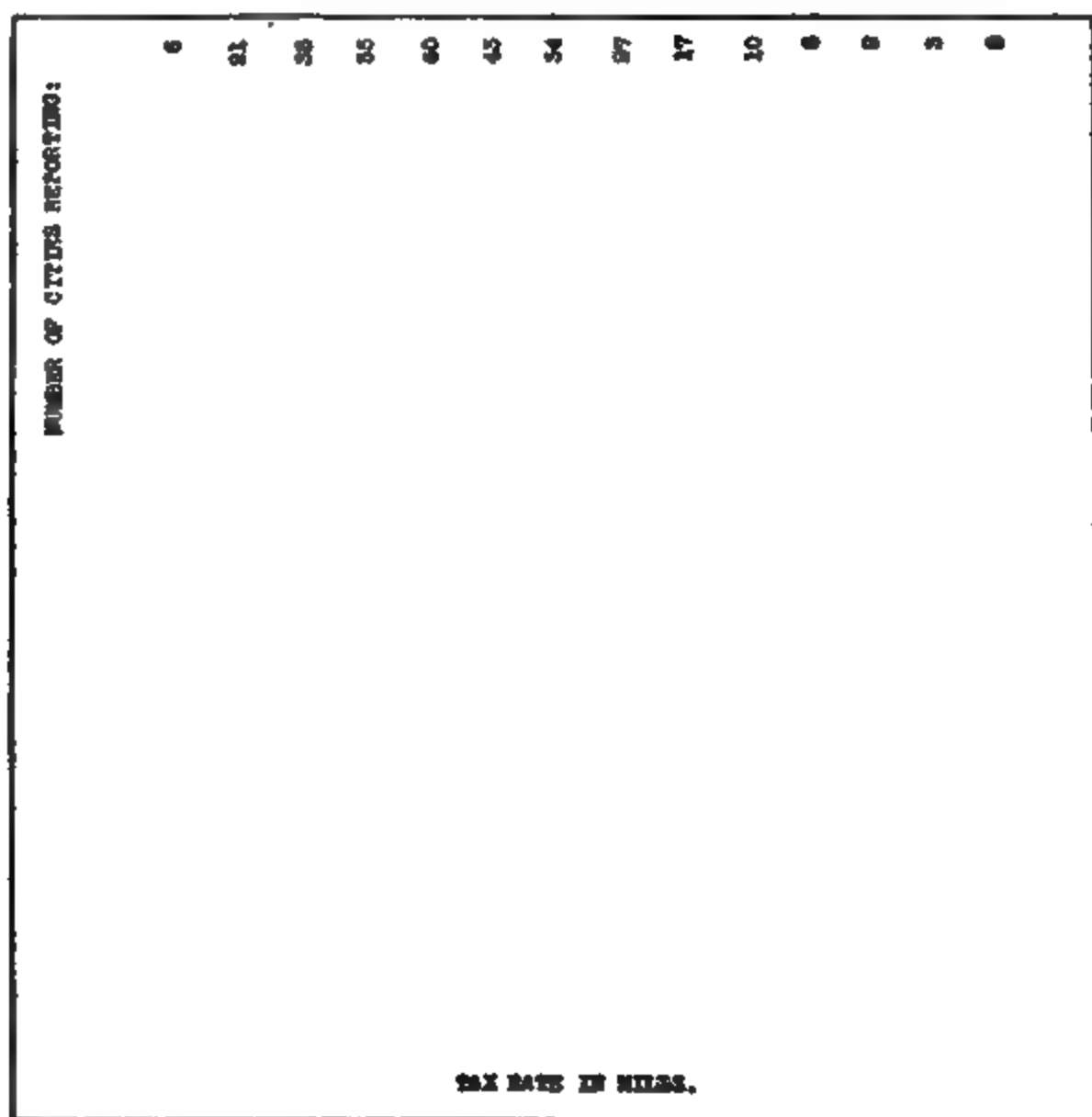


CHART IV.—Athens stands 40th from the bottom in a list of 327 cities in its tax rate for schools.

panying chart was \$49.93. In other words, it stood eleventh from the bottom of the list of 45 cities.²⁰ (See Chart V.)

Athens stands twenty-first from the bottom of the list of 340 cities in the amount of its school property.—The value of the school property of the public schools of Athens tells the story of its poverty in school buildings and indicates with startling accuracy how far behind other cities Athens has fallen in its provisions for housing its children.

¹⁹ See Statistics of Public School Systems, H. R. Bonner, U. S. Bu. Educ. Bul. 1920, No. 24, p. 487.

²⁰ See Statistics of City School Systems, H. R. Bonner, U. S. Bu. Educ. Bul. 1920, No. 24, pp. 146, 428, and 324.

The value of school property in Athens in 1917-18 was \$123,000. The number of pupils enrolled in that year was 2,945. Therefore, the value of school property per pupil was \$42. Compared with 340 other cities of the same population group, Athens stood twenty-first from the bottom of the list in the amount of its school property.²¹

In other words, these facts show that Athens is far behind other cities of the same population group with respect to the amount of

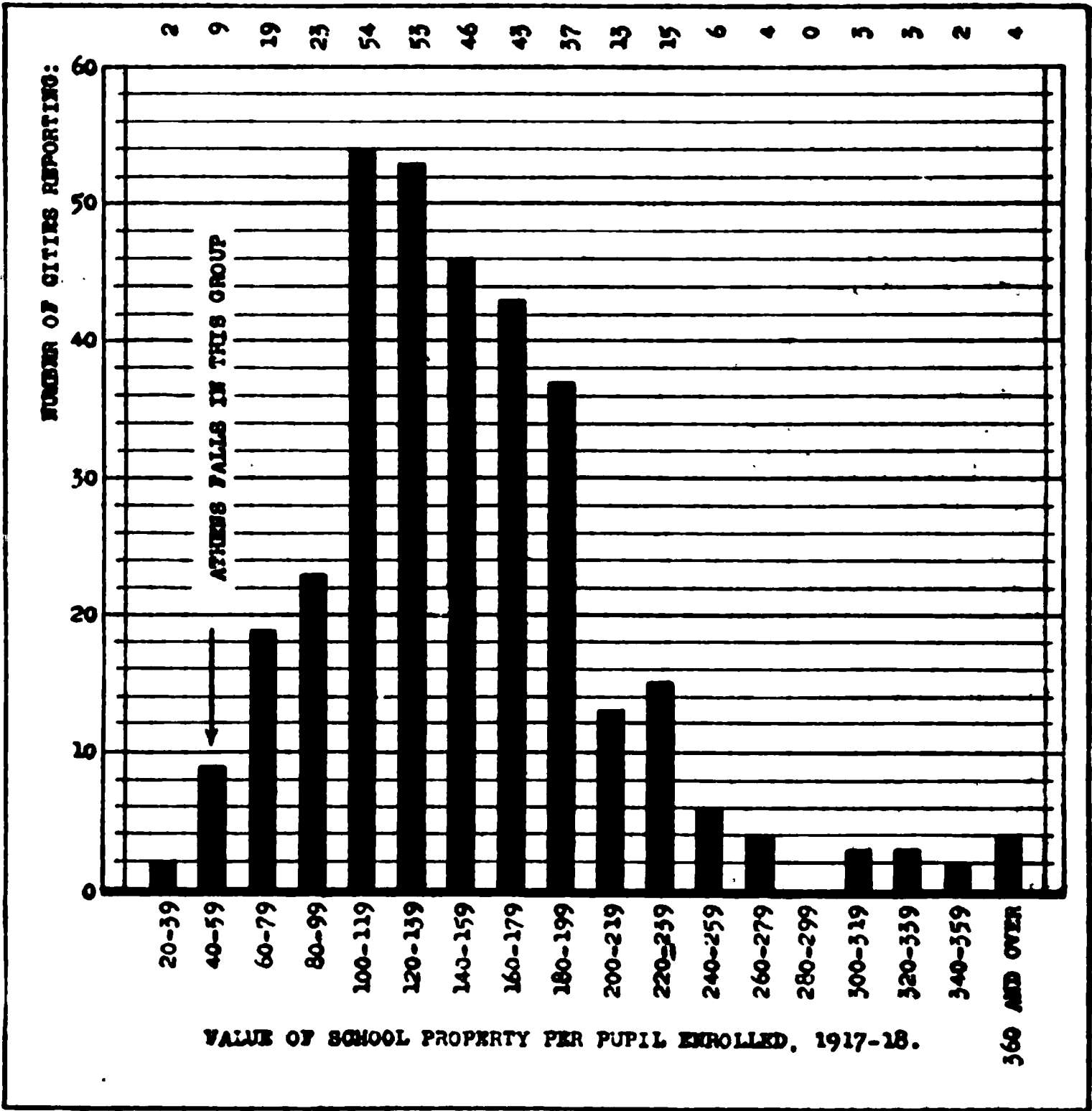


CHART VI.—Athens stands 21st from the bottom in a list of 240 cities in the amount of its school property.

money that it spends annually on its schools, and with respect to the amount of money that it has invested in its school plant.

The usual answer to such facts is that the community has not sufficient wealth to finance its schools adequately. But this is not true of Athens.

Athens has sufficient wealth to give the children of the city the kind of school plant they need.—In 1917-18 the taxable wealth of Athens was \$10,000,000. This, however, was on 67 per cent valuation of property. The true value of the taxable wealth, on a 100 per cent valua-

²¹ See Statistics of City School Systems, H. R. Bonner, U. S. Bu. Educ. Bul. 1920, No. 24, pp. 467, 324, and 123. See about quoting individual cities, p. 467.

CHART VII.—Athens has more money behind her school dollar and spends less money for every \$1,000 of true wealth than any other city of this group of 23 cities.

tion, was \$14,925,000. Compared with 23 other cities whose wealth is also estimated on a 100 per cent valuation, Athens stands highest in the amount of wealth behind the school dollar.²² (See Table 3.)

The following table shows that Athens spent \$1 for school purposes for every \$217 it possessed, whereas the average city in the group expended \$1 on schools for every \$120 of wealth it possessed.

Furthermore, cities with one-half the wealth of Athens spent more upon their schools than Athens. For example, Traverse City, Mich., with a smaller population and one-half the wealth of Athens, spent more on its schools than Athens; i. e., \$1 out of every \$101 of wealth as compared with \$217 in Athens. Traverse City's true wealth was \$7,756,000, and she spent \$77,013 on her schools; whereas the true wealth of Athens was \$14,925,000, and she spent \$68,797 on her schools. Hackensack, N. J., with about the same population and with slightly larger wealth than Athens spent about three times as much on its schools. Her taxable wealth was \$16,038,000 and she spent \$214,660 on her schools.

Even if it were contended that property in Athens is assessed at 100 per cent valuation, the city had \$145 behind every dollar expended for the schools, as compared with an average of \$120 in cities

²² See Statistics of City School Systems, H. R. Bonner, U. S. Bu. Educ. Bul., 1920, No. 24, pp. 437-438; pp. 467-477.

where property is assessed at 100 per cent valuation. In fact, compared with these other 23 cities listed, where the property valuation is on a 100 per cent basis, it is found that only 5 cities out of the 23 had more money behind the school dollar.

Athens spent a smaller proportion of her wealth upon her schools in 1920 than in 1917-18.—It might be thought that these figures for 1917-18 do not represent conditions at the present time, and that in 1920 Athens was spending a greater proportion of her wealth upon her schools. On the contrary in 1920 Athens spent a smaller proportion of her wealth upon her schools than in 1917-18. For example, in 1920 the taxable wealth of Athens, on a 100 per cent property valuation, was \$22,500,000.²³ This does not include the territory annexed to the city in 1921. The expenditures for public schools for that year were \$90,500.²⁴ This means that in 1920 the number of dollars behind every school dollar had increased from \$217 in 1917-18 to \$248.

Even on the basis of the existing 60 per cent valuation of property, the taxable wealth of Athens in 1920 was \$13,500,000. The expenditures for schools were \$90,500. Therefore, the number of dollars behind the school dollar, even on a 60 per cent valuation of property, was \$167 as compared with \$145 in 1917-18.

For every \$1,000 of true wealth Athens spent about one-half as much on her schools as the average city in a list of 23 cities of the same population group.—The following chart shows that not only did Athens have more wealth behind the school dollar than any other city in the group, but also that she spent for every \$1,000 of true wealth less money on her schools than any other city in the group. In 1917-18, for every \$1,000 of true wealth, the average amount expended for public schools by 23 cities of the same population group as Athens was \$8.30, whereas Athens expended only \$4.61 for every \$1,000 of true wealth in the community.²⁵ Even on the basis of 67 per cent assessed valuation of property, Athens spent only \$6.87 out of every \$1,000, or about three-fourths of the average of cities taxed on a 100 per cent valuation.

From 1917-18 to 1920 Athens actually decreased the amount per \$1,000 which she spent on schools.

Although the true wealth of Athens has increased by \$7,575,000 since 1917-18, yet Athens in 1920 spent less money on her schools in proportion to her true taxable wealth than she did in 1917-18; i. e., \$4.02 for every \$1,000 in 1920, as contrasted with \$4.61 in 1917-18 for every \$1,000 of true wealth.

²³ See Appendix V, Taxable wealth of Athens, Ga., 1920.

²⁴ See Appendix VI, Expenditures for all city departments, Athens, Ga., 1920.

²⁵ See Chart VII. True Wealth Behind Every School Dollar.

SUMMARY.

Athens was the pioneer in bringing higher education to the youth of Georgia. Will it lead in reconstructing its public school plant so as to bring modern educational advantages to the children of the public schools?

This question states the real significance of a school-building program for Athens at the present time.

Up to the present time Athens has spent for less on her public schools than other cities of the same size.

Athens is fortieth from the bottom of a list of 327 cities of the same population group in its tax rate for schools.

Athens stands tenth from the bottom of a list of 25 cities of the same population group in its per capita expenditure for schools.

Athens stands twenty-first from the bottom of a list of 340 cities of the same population group in the amount of its school property.

Athens' school plant is in deplorable condition.

Athens is to be congratulated upon the fine, progressive spirit of its superintendent, board of education, and teaching force. They are doing their best to give progressive education to the children, but they are trying to do it in the face of almost insuperable obstacles in the way of inadequate buildings and equipment.

There has been no new elementary school building for 12 years.

The schools are so badly congested that there are 439 more children than there are school seats.

With the exception of two poorly equipped cooking rooms, there are practically no modern facilities in the elementary schools. There is not a single auditorium or gymnasium. There are no shops, no science laboratories, no drawing rooms, no music rooms, no libraries. There are only two principals' offices in all the eight elementary schools, and no teachers' rest rooms. In nearly every school the playground space and equipment are entirely insufficient.

A building program costing \$318,091 is recommended as the minimum required to meet the most pressing needs of the public schools at the present time.

It is further recommended that in order to give not only adequate classroom accommodations to the children, but also a flexible program of work, study, and play in shops, science rooms, drawing rooms, music rooms, auditoriums, and playgrounds, the schools be organized on the work-study-play or balanced load type of organization. Under this plan it will be possible to give these modern facilities to children for \$318,091, whereas under the traditional plan it would cost \$570,091.

This expenditure of \$318,091 is, however, only a beginning of what the city ought to do in order to develop a modern school plant.

As a matter of fact, if Athens is to relieve existing congestion, provide for the growth of at least 10 years, and consolidate her

present small plants into a few modern up-to-date school buildings with adequate playgrounds, *a building program costing \$1,710,120 should be carried out.*

Athens has sufficient wealth to carry out such a program if it is extended over a number of years.

Athens' taxable wealth at present is given at \$14,900,000. But at the present time her property is assessed at 60 per cent valuation. If it were assessed at 100 per cent valuation, her true taxable wealth would be \$24,833,333. Therefore, the amount of money available for bonds at 7 per cent of the taxable wealth would be \$1,738,333. Deducting the \$720,000 for outstanding bonds, there would be left \$1,018,333 available for school bonds, if property were assessed at 100 per cent valuation.

Compared with 23 other cities of the same size, Athens stands highest in the amount of wealth behind the school dollar. Yet for every \$1,000 of school wealth Athens spent about one-half as much on her public schools as the average city in a list of 23 cities of the same size.

Furthermore, although the true wealth of Athens increased by \$7,575,000 since 1918, yet Athens in 1920 spent less money on her schools in proportion to her taxable wealth than she did in 1917-18.

Athens needs to enter upon a statesmanlike policy of reconstructing her whole school plant.

She has the wealth to carry out such policy. Furthermore, the city has such a real and vital interest in education that there is no question but that, if once the facts regarding the public schools are realized, the people of the city will see to it that their children receive the modern educational advantages which the children of other cities are receiving.

The bond issue for \$318,091 is not merely to give buildings to children. It is to give children the chance to grow in health and strength and mental alertness. It is to give them the chance to live.

APPENDIX I.

THE WORK-STUDY-PLAY PLAN IN SOME CITIES.

[From a Report of the Commerce Club of Toledo, Ohio.]

City and State.	Estimated population in 1918.	Number of schools operating under plan.	Attitude of superintendent to plan.	Special remarks.
Winnetka, Ill.	5,000	All, on modified form.	Favorable.	Effects saving in capital investment, enriches school program, and makes possible the employment of competent, trained departmental teachers.
Detroit, Mich.	850,000	16 this year, 50 next year, modified form.	...do.....	Adjusts plans to facilities of particular buildings; teachers enthusiastic about plan; increases seating capacity of building from 16 to 40 per cent.
Kalamazoo, Mich.	50,000	All, on modified form.	...do.....	Used in third to sixth grades, inclusive, junior and senior high schools, all on departmentalized plan.
Newark, N. J.	450,000	9.....	...do.....	Has decided advantages over traditional plan which more than offset disadvantages. Teachers having had 1 year of successful experience in these schools receive a bonus of 5 per cent.
New Brunswick, N. J.	38,000	1, in modified form, platoon plan.	...do.....	Accommodates 16 sections of pupils to space usually assigned to 13 groups, or increases capacity 23 per cent.
Passaic, N. J.	70,000	2.....	...do.....	Average per capita annual cost reduced to 5-hour basis for all schools is \$42.51 for traditional schools as compared with \$32.73 for work-study-play plan schools.
Troy, N. Y.	80,000	1, in modified form.	...do.....	Satisfied with plan; children get greater advantages than with old type of school.
New Castle, Pa. .	36,000	4.....	...do.....	Considered a marked improvement over traditional plan; success depends upon the securing of teachers properly trained to do the special teaching which this type of school demands.
Pittsburgh, Pa. .	504,000	6.....	...do.....	Will extend the use of the plan.
Sewickley, Pa.	6,000	All, for 8 years...	...do.....	Has decided advantages over traditional plan.
Swarthmore, Pa. .	3,000	All, for 8 years; modified form.	...do.....	Very complete school equipment and program; per pupil cost \$97.87.

APPENDIX II.

SCHEDULE SHOWING CAPACITY OF COMPLETE SCHOOL, PER CLASS PERIOD, FOR SCHOOL OF 2,000 PUPILS.

Academic work, 25 classes at 40 pupils each.....	1, 000
<div> <div> Grades 1-4— Reading. Writing. Spelling. Mathematics. Music. </div> <div> Grades 4-9— Geography. History. English, including foreign language. Civics. Mathematics. </div> </div>	
Special work, classes at 20 to 40 each.....	480
2 in elementary science (primary and intermediate) at 40.....	80
2 in drawing and handwork (1 primary, 1 upper and intermediate) at 40.....	80
2 in home economics (upper and intermediate) at 20-40.....	80
1 in arts and crafts (upper and intermediate) at 40.....	
2 in shop for boys (upper and intermediate) at 20-40.....	80
1 in mechanical drawing (upper and intermediate) at 40.....	
2 in general science (upper and intermediate) at 40.....	80
1 in music.....	80
1 in expression } third floor (upper and intermediate).....	
Gymnasiums, 2 classes at 80 each.....	160
Playgrounds, 2 classes at 40 each.....	80
Auditorium, 7 classes.....	280
	520

RECAPITULATION.

Pupils in classrooms.....	1, 000
In special work.....	480
In gymnasiums.....	160
In playgrounds.....	80
In auditorium.....	280
	1, 000
Total.....	2, 000

DUPLICATE SCHOOL PROGRAM, TYPE A.¹

Key to classes.		Rooms.	Names of teachers.	Eight 60-minute class periods.							
Class No.	Class Gr.			I	II	III	IV	V	VI	VII	VIII
1	1B	101	Smith.....		1	2	1	2		1	2
2	1B	102	Jones.....	3	4		3	4	3	4	
3	1A	102	Harter.....	5		6	5		6	5	6
4	1A	103	Ames.....	7	8	7		8	7		8
5	2B	104	Jacobs.....		9	10	9	10		9	10
6	2B	105	Snyder.....	11	12		11	12	11	12	
7	2A	105	Brooks.....	13		14	13		14	13	14
8	2A	106	Aherne.....	15	16	15		16	15		16
9	3B	107	Mosher.....		17	18	17	18		17	18
10	3B	108	Metz.....	23	20		21	24	22	19	
11	3A	108	Glover.....	21		22	19		23	20	24
12	3A	109	Gorry.....	19	24	23		20	21		22
13	4B	110	Nature—Fox.....		11	5	7	6		3	4
14	4B	111	Science—Cear.....	1	23		15	14	2	8	
15	4A	111	Drawing—Glen.....	12		20	23		9	10	13
16	4A	112	Hall—Dorr.....	17	21	24		22	16		19
17	5A 5B	113	Shop—Book.....	20	22	19			24	18	21
18	5A 5B	114	Shop—Dale.....								
19	6B	Auditorium	Hall—Dorr.....	2, 6	10, 14	9, 12			17, 19	21, 23	1, 5
20	6A		Johnson.....	4, 8	13, 15	11, 16			18, 20	22, 24	3, 7
21	7B	Gym. playground	Bruns.....	9, 16	2, 6	1, 8			1, 8	2, 11	9, 15
22	7A		Phillips.....	10, 18	3, 7	3, 13			4, 10	6, 14	11, 17
23	8B		Shafer.....	14, 22	5, 18	4, 17			5, 12	7, 15	12, 20
24	8A		Gale.....	24	19	21			13	16	23

¹ The four types of programs and the explanations here given are reproduced from a leaflet published by William Wirt, superintendent of schools, Gary, Ind., 1918.

The school classes are numbered from 1 to 24, as given under "Key to classes." The 12 odd-numbered classes are in a group alternating with the 12 even-numbered classes in the use of classrooms and special facilities. No. 1 alternates with No. 2, etc.

Since each group of classes contains approximately all school grades, they are duplicate groups of classes. This is the reason for using the name "Duplicate school."

If all children in a family enter odd-numbered classes, they will have the same luncheon hour at Period V. If they enter even-numbered classes, they will have luncheon at Period IV.

The academic teachers use classrooms 101 to 109. Four academic teachers use three rooms and accommodate eight classes three periods each. Each academic teacher teaches six periods divided equally between two classes. If it is desired to departmentalize the academic work, each teacher in any group of three can be given three classes two periods each or six classes one period each, as shown for teachers Metz, Glover, and Gorry.

Teachers Smith and Ames have all of their work in rooms 101 and 103, respectively. Teacher Jones has two class periods in room 101 and four class periods in room 102. Teacher Harter has two class periods in room 103 and four class periods in room 102.

Hall and Dorr alternate in auditorium and classroom in music and expression. Gale takes children from play periods for the preparation of auditorium programs.

Pupils may be excused from play periods for library, private music lessons, week-day church school, home work, etc.

DUPLICATE SCHOOL PROGRAM, TYPE B.

Key to classes.		Rooms.	Teachers.	Seven 60-minute class periods.							
Class No.	Class Gr.			I	II	III	IV		V	VI	VII
1	1B	101	Smith.....	1	1	2	2	.....	1	2	.....
2	1B	102	Jones.....	3	.....	4	4	.....	3	3	4
3	1B	103	Harter.....	.....	5	6	6	.....	5	5	6
4	1A	104	Ames.....	7	7	8	8	.....	7	.....	8
5	1A	105	Jacobs.....	13	10	.....	10	.....	10	13	13
6	2B	106	Snyder.....	14	12	12	.....	.....	12	14	14
7	2B	.....	Brooks.....	9	9	11	11	.....	.....	11	9
8	2A	107	Aherne.....	15	15	16	16	.....	15	16	.....
9	2A	108	Mosher.....	19	.....	18	18	.....	19	19	18
10	3B	109	Metz.....	.....	21	20	20	.....	21	21	20
11	3B	110	Glover.....	23	23	22	22	.....	23	.....	22
12	3A	111	Gorry.....	27	24	.....	24	.....	24	27	27
13	3A	112	Pearcy.....	28	26	26	.....	.....	26	28	28
14	4B	.....	Flynn.....	17	17	25	25	.....	.....	25	17
15	4B	113	Studio—Fox.....	5	3	1	13	.....	2	.....	11
16	4A	114	Science—Cear.....	10	.....	15	14	.....	4	6	12
17	4A	115	Studio—Glen.....	21	19	17	.....	.....	17	8	16
18	5B	116	Shop—Dale.....	} 24	} 20	} 19	} 21	}	} 18	} 22	}
19	5B	117	Shop—Book.....								
20	5A	118	Shop—Gore.....								
21	5A	119	Shop—Dorr.....								
22	6B	120	Science—Hall.....	26	28	23	27	.....	.....	26	24
23	6B	.....	App.—Cook.....	.....	22	21	15	.....	9	7	25
24	6A	Audito- rium	} 2½ teachers.....	{ 11, 16	2, 6	9, 13	1, 5	.....	22, 27	17, 23	15, 21
25	7B			{ 12, 18	4, 8	10, 14	3, 7	.....	25, 28	20, 24	19, 26
26	7A	Gym. play- ground	} 3½ teachers.....	{ 2, 8	11, 16	3, 24	9, 19	.....	6, 13	1, 10	1, 7
27	8B			{ 4, 20	13, 18	5, 27	12, 23	.....	8, 14	4, 12	2, 3
28	8A			{ 6, 22	14, 25	7, 28	17, 26	.....	11, 16	3, 15	5, 10

All children go home for luncheon at the same hour in programs B and C.

Teachers Brooks and Flynn have each of their six class periods in a different room. This excessive traveling can, in part, be divided with the other teachers, but not so successfully as in program A. The upper classes may have their work departmentalized as shown in program A.

Since the auditorium and gymnasiums are in use seven hours in place of six, as in program A, relatively fewer classes are accommodated at any hour in these facilities. The relative amount of space for gymnasiums and auditorium is decreased and a proportionate amount of space is added to classrooms and special facilities.

In *all* duplicate school programs the increase in capacity depends upon the relative amount of gymnasium, auditorium, and special classroom space that is used simultaneously with the regular classrooms, and the total and relative amount of time that each of these school facilities is in use.

DUPLICATE SCHOOL PROGRAM, TYPE C.

Key to classes.		Rooms.	Teachers.	Eight 45-minute class periods with 60-minute noon recess.							
Class No.	Class Gr.			9.00	9.45	10.30	11.15	1.00	1.45	2.30	3.15
1	1B	101	Smith.....	1	1	2	2	1	1	2	2
2	1B	102	Jones.....	3	3	4	4	3	3	4	4
3	1A	103	Harter.....	5	5	6	6	5	5	6	6
4	1A	104	Ames.....	7	7	8	8	7	7	8	8
5	2B	105	Jacobs.....	9	9	10	10	9	9	10	10
6	2B	106	Snyder.....	11	11	12	12	11	11	12	12
7	2A	107	Brooks.....	13	13	14	14	13	13	14	14
8	2A	108	Aherne.....	15	15	16	16	15	15	16	16
9	3B	109	Mosher.....	17	17	18	18	17	17	18	18
10	3B	110	Metz.....	19	19	20	20	19	19	20	20
11	3A	111	Glover.....	21	21	22	22	21	21	22	22
12	3A	112	Gorrey.....	23	23	24	24	23	23	24	24
13	4B	113	Studio—Glenn....	8	2	7	1	10	4	9	3
14	4B	114	Shop—Fox.....	10	4	9	3	12	6	11	5
15	4A	115	Science—Cear....	12	6	11	5	8	2	7	1
16	4A	116	Studio—Dale.....	20	14	19	13	22	16	21	15
17	5A 5B	117	Shop—Book.....	22	16	21	15	24	18	23	17
18	5A 5B	118	Shop—Gore.....								
19	6B	119	Science—Hall....								
20	6A	Gym. play- ground..	{Bruns.....	2, 14	8, 20	1, 13	7, 19	2, 14	8, 20	1, 13	7, 19
21	7B		{Phillips.....	4, 16	10, 22	3, 15	9, 21	4, 16	10, 22	3, 15	9, 21
22	7A		{Shafer.....	6, 18	12, 24	5, 17	11, 23	6, 18	12, 24	5, 17	11, 23
23	8B										
24	8A										

The auditorium is omitted, but, of course, can be substituted for part of the special work. If the school has an auditorium and does not care to use it for regular auditorium exercises, it might be used as a music studio.

A 5-hour day for teachers and students can be arranged by shortening the afternoon periods. The special work in the morning may then be divided into six 30-minute periods, if uniform periods are desired.

In *all* duplicate programs additional academic work can be substituted for part of the physical training and special work. Some other type of work can be substituted for "Application." The auditorium may be omitted in any program by substituting additional academic or special workroom units. The day may be shortened by reducing the length of periods or changing the number of periods. Primary children may be given more play than upper grades. Academic or special work for two continuous periods may be broken up by changing classes every hour. This will also give academic work during Period II to the classes that would otherwise not get academic work until Period III.

Pupils may be given longer hours than teachers without employing extra teachers because a less number of teachers than classes are in the auditorium and playgrounds.

The writer has worked with more than 50 different types of duplicate school programs. Almost any kind of school can be secured by changing the length, number, or grouping of the periods, the type and the sequence of work, and the school hours for pupils or teachers.

DUPLICATE SCHOOL PROGRAM, TYPE D.

Key to classes.		Rooms.	Teachers.	Ten 45-minute class periods with a noon recess.									
Class No.	Class Gr.			I	II	III	IV	V	VI	VII	VIII	IX	X
1	1B	101	Smith.....	1	1	2	.....	2	1	1	.....	2	2
2	1B	102	Jones.....	3	3	.....	4	4	3	.....	3	4	4
3	1A	103	Harter.....	5	5	6	6	6	.....	5	5	6	.....
4	1A	104	Ames.....	7	.....	7	8	8	7	7	8	.....	8
5	2B	.....	Jacobs.....	.....	7	4	2	.....	5	3	1	8	6
6	2B	105	Snyder.....	9	9	10	.....	10	9	9	.....	10	10
7	2A	106	Brooks.....	11	11	.....	12	12	112	.....	11	12	12
8	2A	107	Aberne.....	13	13	14	14	14	.....	13	13	14	.....
9	3B	108	Moehar.....	15	.....	6	16	15	16	15	15	.....	16
10	3B	.....	Metz.....	.....	15	12	10	.....	3	11	9	16	14
11	3A	109	Glover.....	17	7	18	.....	18	17	17	.....	18	18
12	3A	110	Gorry.....	19	9	.....	20	20	19	.....	19	20	20
13	4B	111	Pearcy.....	21	21	22	22	22	.....	21	21	22	.....
14	4B	112	Flynn.....	23	.....	24	23	24	23	24	23	.....	24
15	4A	.....	Cook.....	.....	23	20	18	.....	21	19	17	24	22
16	4A	.....	.....	2	14	8	19	.....	.....	20	7	13	1
17	5A 5B	Auditor- ium.	Dale.....	4	16	9	21	.....	.....	22	10	15	3
18	5A 5B	.....	Book.....	6	18	11	24	.....	.....	23	12	17	5
19	6B	Gym.	Johnson.....	2, 12	2, 4	1, 3	1, 3	.....	.....	2, 4	2, 4	1, 3	7, 11
20	6A	and play	Bruns.....	14, 16	6, 8	19, 21	5, 9	.....	.....	8, 10	20, 22	5, 7	13, 15
21	7B	grounds	Phillips.....	18	19	23	11	.....	.....	12	24	9	17
22	7A	113	Studio-Fox	10	12	5	7	.....	.....	8	6	11	9
23	8B	114	Studio-Oar	20	20	18	18	.....	.....	14	14	19	19
24	8A	115	Science-Door	22	22	15	15	.....	.....	16	16	21	21
		116	Shop-Hall..	24	24	17	17	.....	.....	18	18	23	23
		117	Shop-Gala..										

Teachers Jacobs, Metz, and Cook should teach drawing, music, or some special subject that can be taught in regular classrooms. If desired, the continuous academic periods may be broken up as shown for teacher Flynn with classes Nos. 23 and 24. The following table gives comparative data concerning the four program types.

Program types.	Hours in use.				Hours classwork.		Teachers per class.	Room units per class.
	Class-rooms.	Gyms.	Aud.	Special rooms.	Teachers.	Pupils.		
A.....	8	6	6	6, 8	6	7	1.00	0.583
B.....	7	7	7	7	6	7	1.03	.714
C.....	6	6	6	6	6	6	.91	.791
D.....	7½	6	6	6	6	6½	1.04	.708

“Room units per class” does not include auditorium and gymnasium space.

APPENDIX III.

DESCRIPTION OF TYPE BUILDING OF WHICH A DIAGRAM IS SUBMITTED.

THE CLASSROOMS.¹

The interior arrangement of the building calls first of all for classrooms sufficient in number to house 50 per cent of the pupils at any one time.

Usually the subjects of reading, writing, arithmetic, English, and spelling are taught in these classrooms, and normally at least half of the children's school day is devoted to these subjects. If the school day is six hours in length, about three hours daily will be spent in classrooms. Of course the length of the day can vary as much as is desirable. The above merely states what the usual arrangement and balance is, where the plan is used successfully.

Geography, history, and civics are sometimes classified as regular classroom subjects, but generally in the complete schools these are considered special or laboratory subjects. Although only half the children's time is spent in the classrooms, the other subjects supplement in various ways the drill subjects in the classrooms; so in reality children may spend more than half the time in the fundamental subjects. Comparing this time with the time in the traditional school, we find that no time is taken from the fundamental subjects by changing the type of organization and plan of operation from a traditional one to one which gives adequate recognition to all vital considerations in education, viz, health, the fundamental operations, manual skill, wholesome recreation, and ethical character.

On the other hand, if school authorities wish to classify as classroom subjects geography and history, as well as reading, writing, and arithmetic, it is possible to so classify them in the complete work-study-play school, and give the same amount of time to them—210 minutes—as in the traditional school.

GYMNASIUMS.

Two gymnasiums are provided for in the plan, one for girls and one for boys. These include dressing and shower rooms, as well as offices for the instructors, physician, and nurse, and space for clinics. Located at the rear of the building, they open directly to the playground. A roof playground could be added, to be used for play classes during the inclement weather as well as for open-air classes. A total of from 6 to 8 classes could be handled during each period by the gymnasium and playgrounds without congestion.

SHOPS.

The workshops for boys include woodwork, staining and finishing, mechanical drawing, and may include printing, metal work, or other shop activities. The activities for girls include home economics and the arts and crafts, although, of course, girls as well as boys may elect to do the work in mechanical drawing, printing, metal work, and other shop activities. Four classes (160 pupils) can be accommodated in these prevocational quarters. This approximates about 80 students in the shops and 80 in the home economics quarters.

AUDITORIUM.

An auditorium with a seating capacity of 800 could be provided, but it is scarcely possible to get that number of children in one school into a homogeneous group. Seven

¹ See pp. 26-27.

or eight classes for each period would be a normal group for a 50-class school. Then, if the auditorium day is six periods, all the classes will enjoy the advantages of the auditorium activities in the course of the day. Undoubtedly the auditorium activities have passed the experimental stage. It is obvious that chorus singing, visual instruction, appreciation lessons in music, art, and achievement can not be developed as well in classrooms as in the auditorium, because auditorium equipment is best suited to that type of instruction. Furthermore, the auditorium is the best place for definite instruction on such topics as thrift, citizenship, community, and current topics of all kinds.

Auditoriums will serve community uses, of course, and it is for this purpose, as well as those enumerated above, that they are usually included in a complete school. Many school people make the mistake of planning auditoriums that are overlarge. Medium-sized auditoriums are better for daily use, and it is only on rare occasions that an auditorium large enough to accommodate the whole school is needed. The smaller assembly room is more practical for daily school uses, but where several schools are being planned at the same time it is advisable to plan the largest auditorium in the one school that is the most central.

LABORATORIES.

Four laboratories are included, two for the younger children and two for the older. Two of these have greenhouses and can be specialized for nature study and horticulture. Nature study is science taught by observation and by contact with natural and living phenomena. Every normal child is a natural scientist, curious to know all about the natural phenomena about him. Only a small per cent of our children have opportunities for plant culture and animal nurture at their homes. The school must provide these life experiences in most cases. Gardening is usually considered a part of this elementary science, and it is a good plan for the greenhouses to open out on the gardens. These rooms may also be used for handwork rooms for the younger pupils, since much of their handwork will or should be a direct outgrowth of the nature study.

General science is a term applied to more advanced and specific instruction than that just mentioned above; for example, botany, zoology, chemistry, and physics in elementary schools. The aim in all this science instruction is really to develop a usable fund of knowledge about common things.

APPENDIX IV.

ENROLLMENT IN PUBLIC SCHOOLS, ATHENS, GA., 1913-14 TO 1919-20, INCLUSIVE.

Name of school.	1913-14.	1914-15.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	Jan. 31, 1921.
ELEMENTARY.								
White:								
Baxter Street.....	292	341	307	297	282	272	305	291
Childs Street.....	278	299	372	405	398	348	410	421
College Avenue.....	497	541	486	513	419	408	429	434
Oconee Street.....	221	229	228	255	239	259	250	249
Nantahala Avenue.....	181	220	166	166	183	196	222	190
Total white.....	1,469	1,680	1,559	1,636	1,541	1,483	1,616	1,579
Negro:								
East Athens.....	362	366	284	416	348	298	429	399
West Athens.....	221	246	277	276	257	262	291	299
Newtown.....	209	211	220	203	182	129	182	173
Reese Street.....	338	266	337	343	288	180	163	163
Total Negro.....	1,130	1,189	1,218	1,238	1,075	869	1,045	1,135
Total white and Negro elementary...	2,599	2,819	2,777	2,874	2,616	2,352	2,661	2,714
HIGH SCHOOLS.								
Athens High (white).....	254	264	308	293	312	316	345	391
High and Industrial (Negro).....	50	47	59	76	99	98	111	115
Grand total.....	2,903	3,130	3,144	3,238	3,027	2,766	3,117	3,220

APPENDIX V.

TAXABLE WEALTH OF ATHENS, GA., 1920.

Real property.....	\$8,536,125
Personal property.....	4,963,875
Total.....	13,500,000
If property were assessed at 100 per cent valuation instead of 60 per cent, the taxable wealth would be.....	22,500,000

APPENDIX VI.

EXPENDITURES FOR ALL CITY DEPARTMENTS, ATHENS, GA., 1920.

City departments.	Expenditures, 1920.	City departments.	Expenditures, 1920.
Aldermen.....	\$2,400.00	Police department.....	\$35,382.75
Advertising.....	1,784.18	Printing.....	656.99
Assessors.....	1,225.00	PUBLIC SCHOOLS.....	90,500.00
Bond commission.....	12,141.00	Stockade.....	2,068.76
Damages.....	125.00	City hall offices.....	15,788.54
Charity.....	2,982.64	Streets.....	27,589.71
City hall.....	3,773.22	Sewers.....	1,353.57
Fire department.....	30,415.02	Stock feed.....	6,381.10
Health department.....	28,455.29	Water works.....	51,883.42
Insurance.....	750.69	Total.....	329,167.75
Street lights.....	13,196.84		
Miscellaneous.....	314.02		

DEPARTMENT OF THE INTERIOR
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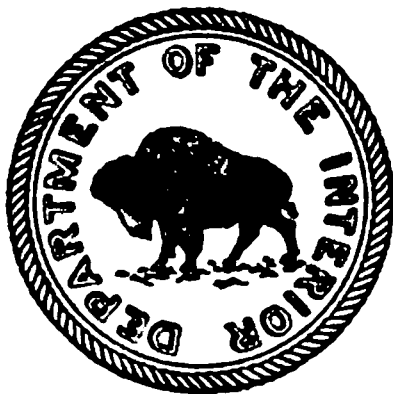
BULLETIN, 1921, No. 26

EDUCATIONAL SURVEY
OF
ELIZABETH CITY
NORTH CAROLINA

LA 342 - Elizabeth city N.C.

Summary of Conclusions and Recommendations

A DIGEST OF THE REPORT OF A SURVEY OF THE
PUBLIC SCHOOLS OF ELIZABETH CITY, N. C., MADE
AT THE REQUEST OF THE BOARD OF SCHOOL
TRUSTEES, UNDER THE DIRECTION OF THE
UNITED STATES COMMISSIONER OF EDUCATION



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EDUCATIONAL SURVEY OF ELIZABETH CITY, NORTH CAROLINA.

I. INTRODUCTORY.

On July 20, 1920, the board of school trustees invited the Commissioner of Education to undertake a survey of the schools of Elizabeth City, with the understanding that the cost would not exceed \$1,500, and that the cost of the survey would be underwritten by the Elizabeth City Chamber of Commerce.

MEMBERS OF THE SURVEY COMMISSION.

The members of the commission appointed by the commissioner to make the survey, and to report to him their findings and recommendations, are as follows:

FROM THE BUREAU OF EDUCATION.

Dr. William T. Bawden, Assistant to the Commissioner, director of the survey.

Mrs. Alice Barrows Fernandez, Specialist in Industrial and Economic Relations in Education.

Mr. Walter S. Deffenbaugh, Specialist in Education in Villages and Towns.

Mrs. Henrietta W. Calvin, Specialist in Home Economics.

Miss Julia Wade Abbot, Specialist in Kindergarten Education.

FROM OUTSIDE THE BUREAU OF EDUCATION.

Dr. Charles G. Maphis, Professor of Education, University of Virginia, Charlottesville, Va.

Dr. Thomas Alexander, Professor of Elementary Education, Peabody College for Teachers, Nashville, Tenn.

THE FIELD WORK.

On July 24-25 Commissioner Claxton and two members of the commission made a study of the buildings and gathered data upon which the recommendations concerning the building program were based. This part of the report was submitted to the board July 30, 1920. The remainder of the field work was done during the month of November, and included an aggregate of about 70 days.

On Friday evening, January 7, 1921, the director of the survey presented an outline of the report, and discussed the conclusions and recommendations with the board in Elizabeth City. As rapidly as the work could be completed, the full text of the report was furnished to the board in manuscript, the last chapters being mailed on July 7, 1921.

II. A BUILDING PROGRAM.

The schools of Elizabeth City are badly congested. It is important that the city undertake a building program which will not only relieve present congestion but also provide for increase in enrollment over a period of years. In order to do this it is necessary to determine (1) how many children there are of school age in the city; (2) what is the present number of children enrolled in school and what is the present school congestion—that is, how many children are without adequate seating accommodations; (3) what has been the rate of increase in the school population over a period of years; and (4) the appropriation that will be necessary in order to give children not only seating accommodations but modern school facilities.

NUMBER OF CHILDREN OF SCHOOL AGE.

According to the school census, there were 2,997 children between the ages of 6 and 21 in Elizabeth City in 1919–20. Eliminating those between the ages of 18 and 20, there were apparently 2,789 children of school age in the city. Of this number, 1,641 were white children and 1,148 were negro (see Table 1).

But although there were 2,789 children of school age, only 2,202 were enrolled in the public schools. Of these, 1,425 were white and 777 were negro. In other words, there were 216 white children of school age who were not in public school and 371 negro children who were not in public school; that is, 21 per cent of all children of school age were not enrolled in public school (see Table 2).

TABLE 1.—*Children of school census age; enrollment; average attendance, 1919–20.*

Children of school census age.	White.			Colored.			Total white and colored.
	Male.	Female.	Total.	Male.	Female.	Total.	
Children 6 to 7 years old, inclusive.....	134	145	779	107	100	207	486
Children 8 to 13 years old, inclusive.....	368	403	771	269	325	594	1,365
Children 14 to 17 years old, inclusive.....	278	313	591	149	198	347	938
Children 18 to 20 years old, inclusive.....	63	62	125	32	51	83	208
Total census 6 to 21.....	843	923	1,766	557	674	1,231	2,997
Enrollment of children 6 to 21.....	668	757	1,425	353	424	777	2,202
Enrollment of children 8 to 13, inclusive.....	393	429	822	225	273	498	1,320
Average daily attendance, 6 to 21.....	538	634	1,132	215	249	464	1,637
Average daily attendance, 8 to 13, inclusive..	350	380	730	150	222	372	1,002

TABLE 2.—Enrollment in 1914-15 and 1919-20 in public schools, Elizabeth City, N. C.; classrooms; special facilities; teaching force.

Names of school.	Grades (inclusive).	Net enrollment.		Per cent of increase 1914-15 to 1919-20.	Number of regular classrooms available.	Total classrooms required for present enrollment.	Excess of classrooms required over those available.	Auditorium built for purpose.	Cooking room.	Science room.	Acres in playground.	Number regular teachers. ¹	Principals. ²	Total teaching force. ³
		In 1914-15.	In 1919-20.											
White:														
Primary.....	1-3	519	607	16.9	13	16	3	.....	.....	.....	2½	13	1	.....
High school.....	4-7	473	564	19.2	.....	.....	.....	.....	.....	.....		13	1	.....
	8-11	148	254	71.6	.....	.....	.....	1	1	1		9	1	.....
Total for grades.....	4-11	621	818	31.7	16	21	5	.....	.....	.....	.....	35	3	88
Total for white schools.....	1-11	1,140	1,425	25.0	29	37	8	1	1	1	2½	.....	.....	.....
Negro:														
Cale Street.....	1, 2	.....	224	.....	.....	.....	.....	.....	.....	.....	.....	31	1	.....
Shannon Street.....	2-5	.....	198	.....	.....	.....	.....	.....	.....	.....	.....	4	.....	.....
Sawyer Town.....	1	.....	173	.....	.....	.....	.....	.....	.....	.....	.....	1	1	.....
Total.....	.....	.....	595	.....	.....	.....	.....	.....	.....	.....	1	8	2	.....
Normal school.....	1-8	.....	182	.....	.....	.....	.....	.....	.....	.....	.....	48	5	48
Grand total (including children in normal school).....	.....	.....	2,202	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

¹ One domestic science teacher for white schools.
² All principals teach classes.
³ In addition to this number 5 white teachers and 1 colored teacher have been engaged for next year, 1920-21.

Obviously, any adequate building program must provide for these children whom the public school is under obligation to care for, and who would be far more likely to attend if the school accommodations were adequate and modern. On the other hand, if they do not enter school even when new buildings are provided, then the building program proposed will provide for an increase in enrollment over more than five years.

SCHOOL CONGESTION.

1. WHITE SCHOOLS.

In 1919-20 there were 1,425 white children enrolled in school, or 37 classes. There are two white school buildings—the Primary, which houses grades from 1 to 3, inclusive, and the High School, which houses grades from 4 to 7, inclusive, and 8 to 11, inclusive. In the primary school there are 16 classes but only 13 regular classrooms. In the high school there are 16 regular classrooms and 21 classes. In other words, in these two buildings there are eight more classes than there are classrooms available.

The rate of increase has been about one and one-half classes per year for the last five years. For example, in 1914-15 there were

1,140 children enrolled, while in 1919-20 there were 1,425, or an increase of 285 children, approximately eight classes.

The school authorities have made every effort to meet the increasing congestion, but they have had an almost impossible task. They have been compelled to use basement rooms which never should have been used as classrooms; corners of the auditorium have been partitioned off to make room for classes; and it is understood that even the auditorium stage has been pressed into service as a classroom.

But the situation is worse than these facts would indicate, for although there are 13 rooms in the primary school, they can not be included in the building plans, since they are really not fit for school purposes. The inadequate lighting alone should prohibit their use. In fact, if the parents of the children realized that permitting their children to study in the badly lighted, overcrowded rooms of the primary school was a menace to the eyesight and health of the children, there is no question but that they would insist that the school be abandoned and adequate appropriations made for school accommodation.

To sum up the situation in the white schools, there are 36 classes of children and only 16 available classrooms (when the primary school is eliminated), i. e., there are 20 classes without adequate seating accommodations. Moreover, an increase of between seven and eight classes, about 280 children, over the next five years must be provided for. Furthermore, the 216 children of school age not now in school should be provided for. In other words, taking the children now enrolled, 1,425, those of school age out of school, 216, and the anticipated increase during the next five years, 280, it will be necessary for Elizabeth City to so plan its building program that 48 classes of children—1,921 children—may be provided for in the coming bond issue. If this is done, not only will present congestion be relieved but adequate provision made for a period of five years.

2. NEGRO SCHOOLS.

According to the statistical report of the superintendent of schools for 1914-15 there were 585 children enrolled in the Negro schools in the first five grades. (See Table 3.) In 1919-20 there were 777 children enrolled in seven grades, and of this number 595 were in the three public schools, while the remainder were in the Negro normal school, which takes children in the practice school department from grade 1 through 8. (See Table 4.) The increase in the public and normal schools of children in grades 1 to 8 was 192 in five years, or at the rate of about one class a year.

TABLE 3.—*Enrollment by grades and races in the year 1914-15.*¹

Enrollment.	White.			Colored.		
	Num-ber.	Aver-age age.	Boys en-rolled.	Num-ber.	Aver-age age.	Boys en-rolled.
First grade.....	224	7	114	352	8	147
Second grade.....	159	8	87	92	10	50
Third grade.....	136	10	60	100	12	32
Fourth grade.....	144	11	74	30	13	10
Fifth grade.....	155	12	63	11	14	5
Sixth grade.....	104	14	47	.....	.....	.....
Seventh grade.....	70	15	24	.....	.....	.....
Eighth grade.....	75	15	38	.....	.....	.....
Ninth grade.....	35	16	11	.....	.....	.....
Tenth grade.....	26	17	10	.....	.....	.....
Eleventh grade.....	12	17	3	.....	.....	.....
Total.....	1,140	13	531	585	11	244
Number completing course.....	12	17	3	10	13	4

TABLE 4.—*Enrollment by grades and races in the year 1919-20.*¹

Enrollment.	White.		Colored.	
	Num-ber.	Boys en-rolled.	Num-ber.	Boys en-rolled.
First grade.....	244	127	393	198
Second grade.....	192	100	107	51
Third grade.....	171	84	125	60
Fourth grade.....	165	81	59	17
Fifth grade.....	168	75	39	16
Sixth grade.....	122	57	35	14
Seventh grade.....	109	48	19	4
Eighth grade.....	103	40	.....	.....
Ninth grade.....	64	30	.....	.....
Tenth grade.....	59	20	.....	.....
Eleventh grade.....	28	6	.....	.....
Total.....	1,425	668	777	360
Number completing course.....	21	6	.....	.....

¹ From statistical report of city superintendent, Elizabeth City, N. C.

There is not only bad congestion in the Negro schools, but the buildings themselves are unfit for school purposes. In 1919-20, in grades 1 to 5, inclusive, were 595 Negro children attending school in three wooden frame structures. In Sawyer town school 173 children go to school in two rooms. One room has 27 double benches and the other has 28. The benches are old and scarred. In one room 54 children attend in the morning and in another 54 in afternoon. The building is nothing but a frame structure in such bad repair that pasteboard is tacked over a portion of a window where the pane has been broken. In Cale School there are 224 children in four rooms. In one room there are 31 double benches; in another, 30; in another, 29; and in the fourth, 22. In Shannon Street school there are 198 children. One room has 17 double seats, another 20, another 24½, another 23, and there is also a chapel, which is one long room with

a platform. All these buildings should be abandoned, for they are not fit for school use.

LACK OF MODERN SCHOOL FACILITIES.

But there is not only great congestion in both the white and Negro schools, but also there are almost none of the modern school facilities, such as auditoriums, gymnasium, shops, laboratories, drawing and music rooms—facilities which are now recognized as essential in any modern school system and which it is necessary to include in an adequate building program. There are in the white schools one auditorium, no gymnasium, no shops, one cooking room, and one laboratory with very little equipment, no drawing room, no music room, and no library.

CHANGED SOCIAL AND INDUSTRIAL CONDITIONS DEMAND CHANGES IN THE SCHOOLS.

It is often difficult for men and women who were brought up in the country a generation ago to realize the necessity of providing these facilities for children living in cities. In the olden days it made little difference that the school buildings consisted only of classrooms for studying the three R's. In those days the children had plenty of opportunity for wholesome work and play, which, educationally, were just as important for them as study. There is such a common tendency to identify "schools" and "education" that it is important to emphasize the fact that education has always consisted of work and study and play, and that children must not be deprived of any of these three elements in their education if they are to grow in health and strength and develop initiative, intelligence, and the ability to think for themselves.

Fifty years ago the environment of the average boy and girl furnished an education in wholesome activities that developed intelligence, initiative, and industrious habits. But during the past half century has come the growth of the modern city; until now half the population of the country is concentrated in cities, and the city with its overcrowding, its mills and factories, and office buildings, which gradually go up on the vacant lots, is depriving children of the opportunity for the healthy, wholesome work and play which are essential elements in their education. The city home, whether in a large or small city, is very unlike the farm with its many necessities for "learning by doing." It offers few educational opportunities in the way of healthful work which develops the ability to think by attacking problems to be solved. There is no planting or harvesting to be done; few if any animals to be taken care of; and it is a rare city home that has a workshop or laboratory. Yet children until recently have received much of their education through the opportunity to handle tools, to take care of animals, and to experiment

in making and using things. But the city not only fails to educate children in the right direction; it educates them in the wrong direction, for the street, with its dangers to the physical and moral life of the children, too often becomes their only playground. And street play means education not in health and strength and wholesome living but precocious education in all the vicious side of a city's life.

For these reasons it has come to be recognized that the city school must not only supply the opportunity for study in good classrooms under wholesome conditions, but it must also return to the children the opportunity for the helpful work and play which the home can no longer supply. It must provide playgrounds and shops and laboratories and drawing and music rooms, as well as classrooms, where they may be kept wholesomely busy all day. For Elizabeth City to plan a building program on the basis of providing merely classrooms for her school population and to ignore her obligation to furnish such modern facilities as shops, laboratories, and nature-study rooms would be to fail in her duty to the rising generation and to the best interests of the city. It is said that America is the land of equal opportunity in education. This, however, does not mean opportunity for uniform education, but opportunity for the development of the varied gifts of many individuals. Democratic education means *variety* of opportunity in accordance with the needs of the individual. If Elizabeth City does not give this variety of opportunity in work and study and play to the children of all its people, then it is failing to tap the reservoirs of power for its coming citizenship. Moreover, it is laying up trouble for itself in the future, for nothing is more serious for any community than to have the rising generation feel balked in their power of self-expression and attainment.

A COMPREHENSIVE BUILDING PROGRAM NEEDED.

It is obvious from the foregoing that Elizabeth City needs a building program which will relieve present congestion, provide for an increase in enrollment for at least five years, and at the same time provide the modern educational facilities, such as auditoriums, playgrounds, shops, and laboratories. To do this will involve considerable expenditure and careful planning. There are two chief methods of meeting the situation.

The first method would attempt to solve the situation by the usual procedure of adding classrooms without changing the traditional school organization. All children would be expected to be in school seats at the same time, and if provision were made for special activities, such as shops or cooking rooms, the classrooms would remain vacant when such facilities were in use. If such special facilities were provided, therefore, they would have to be in addition to a classroom for every class.

Let us consider the cost of meeting school congestion and growth—in the white schools, for example—on the basis of the traditional type of school organization.

As has been pointed out, it will be necessary, in order to take care of present enrollment and provide for growth in the white schools to make provision for 48 classes. The primary school should be abandoned. That leaves only the high school, with 16 regular classrooms; therefore it would be necessary to erect a building with 32 classrooms in order to provide for the 48 classes. The cost of a classroom unit at the present time is \$16,000. This includes the cost of auditorium and gymnasium. A 32-classroom building would therefore cost \$512,000. This amount, however, would not furnish any of the modern school facilities, such as shops and laboratories. Therefore to provide these facilities would mean an additional expense.

Elizabeth City is not peculiar in respect to her school congestion situation. Cities all over the country, even before the war, were having the greatest difficulty in meeting the increase in school enrollment. The rapid growth of population makes the congestion and financial problems extremely difficult of solution on the traditional plan of a reserved seat for every child. To keep pace with growth, therefore, merely on the basis of adding classrooms where they are needed at a given time, presents both administrative and financial difficulties. But when to this problem is added the obligation to provide the other necessary facilities, such as shops and laboratories, the problem assumes formidable proportions.

Indeed, were this plan the only alternative, the situation which the board of school trustees is now facing would be a discouraging one. Fortunately, however, there is another way out of the difficulty.

THE WORK-STUDY-PLAY PLAN OF ORGANIZATION.

A second possible method of solving the building problem of Elizabeth City is what is commonly known as the "work-study-play plan," now in operation in some 30 or 40 cities in the country. This plan developed in an attempt to solve the peculiar problem created by a modern city. It grew out of recognition of the fact that the growth of cities makes the educational problem far more difficult than formerly; in fact, has created a new school problem. The plan represents an attempt to meet these new conditions and to make it practicable both administratively and financially for school administrators to provide not only classroom accommodations, but also modern educational facilities, such as gymnasiums, shops, and laboratories, that children may be kept wholesomely occupied in study and work and play.¹

¹ For a statement of the plan and its method of operation, see Bul. 1920, No. 22, pp. 14 ff.

Let us consider how this plan can be applied to conditions in Elizabeth City.

A BUILDING PROGRAM ON THE BASIS OF THE WORK-STUDY-PLAY PLAN.

PLAN I.

1. *White schools.*—There are now 1,425 children, 36 classes, in the two white schools. This makes just about enough children for one fair-sized school. All these children should be housed in one school plant, to be located on the present high-school site. The building could be erected in the form of an H, the present high-school building forming one section, and another building erected to the rear of the present high school forming the other section, with an auditorium between the two.

As has been pointed out, the building would have to be planned to take care of a 48-class school in order to provide for a growth over a period of five years. There are, however, at the present time in the high-school building 16 regular classrooms, 4 rooms in the basement, an auditorium on the second floor, and 4 attic rooms.

Under the work-study-play plan, a school of 48 classes would require only 24 classrooms, or 8 more than are now available in the high-school building. Another building should therefore be erected to the rear of the high-school building. To do this the lot on which the present building stands should be squared, the houses to the rear of the high-school building removed, and a new building of 12 units erected, with an auditorium between this building and the existing high school. Twenty-four of the best rooms in the two buildings should be used as classrooms. That would leave 4 units, 2 of which can be used as laboratories, 1 as a drawing room, and 1 as a music room. The 4 rooms in the basement of the old building should be used as shops. In the basement of the new building a gymnasium could be provided for boys, 2 units could be used for cooking rooms, and 1 unit for another shop. The auditorium of the old building could be used as a gymnasium for girls.

In other words, with the addition of a 12-room building the following accommodations could be secured for a 48-class school: 24 classrooms, 2 gymnasiums, 2 laboratories, a drawing room, a music room, 5 shops, and a cooking room. An auditorium could be erected between the old and the new building, with entrances on the side and also with an entrance on the street, so that it could be used easily for community purposes; congestion could be relieved, and provision made for growth for 5 years.

Since a classroom unit costs approximately \$16,000, which includes the cost of an auditorium and gymnasium, a building of 12 units would cost \$192,000.

As has already been suggested, land should be purchased to square the present lot. Also additional playground space is needed, and for this purpose either the whole lot to the north of the present building or the lot directly across the street should be purchased. Of course, the lot to the north of the present building is preferable, as it would not necessitate the children crossing the street for play. Estimating the cost of land at approximately \$30,000, the appropriation for the white schools would be \$222,000.

2. *Negro schools.*—As has been pointed out, the present Negro school buildings are so inadequate that it will be necessary to abandon them and erect new buildings. At the present time (1919–20) there are 595 children in the three public schools, 15 classes. The increase has been approximately at the rate of one class a year. Therefore, provision should be made for at least 750 children, or 18 classes, in order to provide for growth for at least four years.

On the work-study-play plan, this would necessitate a building of nine classrooms and four special activity rooms—a shop for boys, a cooking room for girls, a nature-study room, and a library. An auditorium and gymnasium would be included. This makes a building of 13 units. At a cost of \$16,000 per classroom unit, a building of 13 units would cost \$208,000. Estimating the cost of land at \$10,000, the building and land would come to \$218,000. The total cost, then, of a building program as outlined would be \$440,000.

If it is desired, however, to limit the contemplated bond issue to \$300,000, making temporary arrangements for the Negro schools, and thereby postponing the erection of a permanent building, the following Plan II is suggested:

PLAN II.

Erect two portable buildings of the modern type for Negro children in the northern and southern ends of the town. Each building should accommodate 10 classes. This would necessitate four classrooms, \$4,000; an auditorium, \$2,500; gymnasium, \$2,500; a shop, \$2,000; a cooking room, \$3,000; a drawing room, \$1,000; nature-study room, \$1,000. All these units can be combined into a single building with corridor, principal's office, store, showers, and heating plant, making a total approximate cost of \$30,000 for each building. This would make the total budget for the Negro schools \$60,000, or with the cost of sites approximately \$70,000, thus bringing the total budget to approximately \$300,000.

*Cost of building program according to Plan I.***White school:**

Erect a 12-unit building which, with present high-school building, would provide for a 48-class school—

Cost of building.....	\$192, 000
Cost of land.....	30, 000
Total.....	<u>222, 000</u>

Negro school:

Erect a 13-unit building which will house an 18-class school—

Cost of building.....	208, 000
Cost of land.....	10, 000
Total.....	<u>218, 000</u>
Grand total.....	<u>440, 000</u>

*Cost of building program according to Plan II.***White school:**

Erect a 12-unit building which, with present high-school building, would provide for a 48-class school—

Cost of building.....	\$192, 000
Cost of land.....	30, 000
Total.....	<u>222, 000</u>

Negro school:

Two movable buildings each to contain—

Four classrooms.....	4, 000
Auditorium.....	2, 500
Gymnasium.....	2, 500
Shop.....	2, 000
Cooking room.....	3, 000
Drawing room.....	1, 000
Nature study.....	1, 000
	<u>15, 000</u>
Corridors, heating plant, etc.....	15, 000
Total.....	<u>30, 000</u>

Cost of two buildings.....	60, 000
Cost of land.....	10, 000
Total.....	<u>70, 000</u>
Grand total cost for both white and Negro schools.....	<u>292, 000</u>

III. ORGANIZATION AND ADMINISTRATION.**APATHY OF THE BOARD OF ALDERMEN.**

The board of aldermen is charged by law with the duty of electing the members of the board of education. Four vacancies occur each year. On Monday, December 6, 1920, at a meeting of the board of

aldermen, nine vacancies in the board of education were filled. It appears, therefore, that the board of aldermen has not taken sufficient interest in the affairs of the public schools to discharge its duties at the proper time. The fact that this lapse could occur without public protest suggests the absence of a keen interest in their schools on the part of the citizens and taxpayers of Elizabeth City.

INTEREST OF THE BOARD OF EDUCATION IN SCHOOL AFFAIRS.

Some indication of the degree of interest taken in school affairs is afforded by noting the regularity with which members attend the meetings of the board.

The minutes of the board were examined, and the attendance noted for the period from August 10, 1917, to November 5, 1920, or three years and three months. During this period there were a number of interruptions in the regular order of meetings. For example, no meeting was held between December 13, 1918, and February 7, 1919; no meeting was held between October 16, 1919, and February 24, 1920.

During the period mentioned 41 meetings were held, at only 3 of which were more than 12 members present; there were 8 meetings at which only 6, 7, or 8 members were present. The average attendance was only 10 members. See table following:

Attendance of members of the board of education at its meetings Dec. 13, 1918 to Feb. 7, 1919.

Number of mem- bers present.	Number of meetings.	Aggregate attendance.
6	2	12
7	3	21
8	3	24
9	10	90
10	7	70
11	6	66
12	7	84
13	2	26
14	1	14
Total..... 41		407

If 16 members had been present at each of the 41 meetings, the aggregate attendance would be 656; the actual attendance was 407, or only 62 per cent. The passing grade in the schools under the board's direction is 75.

During the period from August 29, 1919, to November 5, 1920, the board held 13 meetings. Only one member attended 13 meetings; only 6 members attended 10 or more meetings. The average number of meetings attended was 9.5. See table following:

Attendance of members of the board of education at its meetings Aug. 29, 1919, to Nov. 5, 1920.

Number of meet- ings attended.	Number of members attending.	Aggregate attendance.
2	1	2
3	2	6
5	1	5
6	2	12
7	1	7
8	2	16
9	1	9
10	2	20
11	1	11
12	2	24
13	1	13
Total.....	13	125

If 16 members had attended each of the 13 meetings, the aggregate attendance would be 208; the actual attendance was 125, or only 60.1 per cent.

The efficiency of the board, as well as the degree of active interest manifested, so far as these are indicated by regularity of attendance upon the official meetings of the board, have been deteriorating.

Selection of the school board.—The school board of Elizabeth City is composed of 16 members, 4 from each of the 4 wards, appointed by the board of aldermen for a term of 4 years.

Although the method of choosing board members and the size of the board are contrary to general practice, and to the general opinion of students of school administration, the survey committee does not recommend that the method of selecting members be abandoned, but it does recommend that the size of the board be reduced to 5 members, appointed at large for a term of 5 years, one member to be appointed each year.

Size of board.—The school board should be composed of fewer members, for the following reasons: The present board of 16 members is unwieldy and unnecessary for the transaction of business; a smaller board would consider school matters more carefully; in a large board too much dependence is placed on a few to do the thinking and the work; the individual member feels that he does not count for much in a large board, and often loses interest.

The recommendation that the size of the board be reduced is made primarily on the ground that the present board is not functioning efficiently.

Term of office.—The tendency in the best school practice is to lengthen the term of office of members of the board. A long term,

with only partial renewal of the personnel at each new election, usually insures a settled administrative policy. The present term of 4 years in Elizabeth City is satisfactory in this respect. The change to 5 years is suggested chiefly in view of the fact that it is recommended that the board be composed of 5 members.

Ward appointment.—Appointment of members of the board of education should be made irrespective of residence by wards. The schools belong to the entire city. Just what is gained by appointment by wards no one in Elizabeth City could make clear.

At present members of the board of education are virtually chosen by the aldermen of their respective wards, rather than by the entire board of aldermen, representing the entire city.

With a board of only 5 members, and only one to be appointed each year, the board of aldermen would approach the task of selecting from the entire city the person best qualified for the position from an entirely different point of view.

Method of choosing.—At present, it is recommended that the board of aldermen continue to appoint members of the board of education, in preference to popular election, which is the more commonly accepted practice.

This recommendation is based on the belief that in the present state of public opinion in Elizabeth City those persons who are best qualified to serve on the school board would probably not be active candidates for popular election, or allow their names to be used.

POWERS AND DUTIES OF THE SCHOOL BOARD.

Control of funds.—The school board of Elizabeth City has, as it should have, complete control of the expenditure of the school funds, once they are appropriated by the board of aldermen and apportioned from the State and county school funds.

Without definite recommendation of a change in the present arrangement, it may be stated that the present tendency in practice is to make city boards of education entirely independent of other branches of city government, so that they may have power to levy, within statutory limitations, a tax sufficient to maintain the public schools on a high plane of efficiency.

When the board is elected by the people, and thus responsible directly to the people, it is not likely to embark on undertakings which do not command general popular approval.

Legislative, executive, and inspectorial powers.—The work of a board of education may be classed as legislative, executive, and inspectorial.

No school board can perform all of these functions, because of lack of time, and, more especially, because its members are not

fitted to perform them all. Progressive boards limit their functions to the first and last, and employ a superintendent with special training and qualifications to serve as the executive of the board.

Legislative functions include the making of general policies, and regulations relative to their execution. These policies concern the scope of the school system, selection of sites for buildings, the kinds of schools to be established and maintained, the facilities to be supplied, and the apportionment of the school funds. The Elizabeth City school board does not give adequate time and attention to legislative functions.

The board employs an executive officer, the superintendent of schools, and apparently gives him full executive authority.

The board practically ignores its inspectorial function, so far as evidence could be found. The board does not know what the schools are doing.

Those features of the work of the schools concerning which the board should be informed include:

- General school conditions.
- Regularity of attendance.
- Progress of the pupils.
- Cost per pupil in elementary schools.
- Cost per pupil in high school.
- Cost per pupil in colored schools.
- Cost per pupil for each item of expenditure.
- Sanitary conditions.
- Attitude of pupils toward school work.
- Attitude of the teachers.
- Careers of pupils after leaving school.

Board members should visit the schools occasionally to observe general school conditions at first hand. The board should keep informed upon the practice in what are considered the good city school systems of the country.

Members of the board, with the superintendent of schools, should visit other school systems from time to time, and attend educational meetings, and require from the superintendent reports upon what has been seen and heard.

If the board were better informed in school matters it would then be able to ask the superintendent questions concerning the administration and supervision of the Elizabeth City schools, such as:

What is the best practice and what the best educational thought regarding corporal punishment?

Should children 12 to 15 years of age be taught in the same classes with children 6 years of age?

What measures can be taken to reach children of school age who are not now in school?

THE SUPERINTENDENT'S REPORT.

The superintendent should keep in orderly and systematic manner statistical information concerning significant matters relating to the school. In other words, the superintendent should be making a continuous survey of the school system.

In a school system that is steadily improving in the quality of its work, there will be found, among others, the following characteristics:

(1) From year to year the school system will enroll a larger percentage of children of school age, and will carry them further along in the grades before they drop out.

(2) The percentage of pupils in school above compulsory attendance age to those of compulsory attendance ages will increase.

(3) The proportion of over-age pupils and pupils who are making slow progress will decrease.

(4) Fewer pupils will fail of promotion, and fewer will drop out of school before completing the course.

(5) Sufficient teachers and classrooms will be provided as the number of children increases, so that all may be accommodated comfortably and adequately.

(6) The professional qualifications of the teachers will be advancing steadily.

(7) There will be increasing regularity of attendance.

(8) When pupils leave school before the completion of grammar school or high school, the reasons will be ascertained, and in the light of information thus gained the work of the schools will be modified in the endeavor to meet the needs of such children more adequately.

(9) The careers of children will be followed up after they leave school.

(10) Instruction in the schools will react more and more upon the homes and lives of the people; especially instructions in health, music, art, literature, manual training, and home economics.

Definite information concerning these and other matters should be collected, compiled, and interpreted.

Records now in the office of the superintendent contain very little to show in what respects the schools of Elizabeth City are better to-day than they were 5 or 10 years ago.

The board should at once provide the means of keeping simple but adequate records, including a clerk or secretary to the superintendent, who has some knowledge of this kind of work.

The data to be collected should include:

(1) The number of children of each year of age in the city, and the number in school, both public and private.

(2) The number of children of compulsory attendance ages in and out of school.

(3) The number of children above compulsory attendance ages in and out of school.

(4) The ratio of school pupils above compulsory attendance age to those of compulsory attendance ages; also annual changes in this ratio.

(5) Number of pupils for each 100 beginners who drop out of school at each age, and at each grade; number of those leaving to enter school elsewhere; number leaving for other specified causes.

(6) Per cent of those entering the first grade who complete the elementary school course, and the high school course.

(7) Per cent of those completing the elementary school course who enter high school.

(8) Per cent of those entering the high school who complete the course.

(9) Per cent of high-school graduates who enter college; the kinds of courses pursued in college, and the quality of work done.

(10) Age-grade distribution of all pupils for the entire system, and for each school separately.

(11) Average daily attendance based on number belonging and on school population; also distribution showing the number and per cent of children attending 1 to 10 days, 11 to 20 days, etc.

(12) Present occupations of those who have graduated from the high school within 4, 5, or 10 years; and similar information concerning those who have left during the same period without completing the course.

(13) Number and per cent of pupils who fail of promotion in each grade and in each subject.

(14) Ability and achievements of pupils, as determined by school grades and standard objective tests.

(15) Various cost items.

(16) Preparation, experience, and other significant facts regarding the teachers.

(17) Significant facts regarding schools in other cities.

The facts having been collected and compiled the superintendent should use them in preparing his monthly and annual reports to the board. The annual report should be published for distribution to the public.

From the data collected, tables and charts should be prepared and published in the annual report, and also from time to time in the local newspapers.

TEACHERS' SALARIES.

Elementary schools (white).—The median salary paid white elementary school teachers in Elizabeth City is low in comparison with the amounts paid in other cities having a population of 8,000 to 30,000.

In a group of 68 cities located in the Eastern States Elizabeth City is next to the lowest; in a group of 64 cities in the Great Lakes States Elizabeth City ranks 62d; in a group of 33 cities in the Great Plains States Elizabeth City ranks 27th; in comparison with a group of 24 cities in the Western States Elizabeth City ranks lowest; in a group of 33 cities in the Southern States Elizabeth City ranks 23d.

These figures relate to the school year 1919–20; it is probable that Elizabeth City has somewhat improved its relative position this year.

The salary schedule would be improved by providing a greater difference between the minimum and maximum salaries, and by providing a longer period in which to reach the maximum.

The present plan offers no inducement for special industry or for sustained effort to secure self-improvement.

The following salary schedule is suggested for consideration by the Elizabeth City board:

TABLE 5.—*Suggested salary schedule of elementary and high school teachers (white).*

Teachers.	Length of time of appointment.	Elementary.		High school.		Yearly salary increase.	Year in which group maximum can be reached.
		Minimum.	Maximum.	Minimum.	Maximum.		
One-year teachers (probationary for 3 years).	1 year...	\$1,000	\$1,150	\$1,200	\$1,350	\$75	Third.
Three-year teachers.....	3 years...	1,225	1,375	1,425	1,575	75	Third.
Five-year teachers.....	5 years...	1,450	1,650	1,650	1,850	50	Fifth.
Permanent teachers.....	(1)	1,700	2,000	1,900	2,200	50	Seventh.

¹ Until retired.

When the maximum of any group is reached by any teacher, the following alternative courses of action should be open to the board:

(1) Termination of the contract (permissible at the close of each year in group No. 1).

(2) Reappointment annually at the group maximum salary.

(3) Promotion to the next higher group.

Promotion from group to group beyond group No. 2 should be granted only to teachers who have shown special merit and have given evidence of valuable professional study.

Elementary-school and high-school teachers of equivalent preparation, experience, and skill should receive the same salary.

Provision should be made for the following supervising principalships, to be held only by persons who have had definite preparation for the work of supervision, and whose programs provide a definite amount of time for this purpose:

(a) Grades 1 to 6, inclusive.

(b) Junior-senior high school (providing these are both housed in the same building).

(c) The colored schools.

Principals should be assigned definite duties and responsibilities as such, and the superintendent should then not interfere within these limits.

More efficient enforcement of the compulsory education legislation is needed. The truant officer stated that he hardly ever receives a report of truancy on the part of the colored children. The superintendent stated that no earnest attempt is made to compel regular attendance on the part of colored children.

The school nurse and attendance officer service might be combined to advantage.

Special teachers of the following subjects should be provided, whose duties should include teaching classes of the older children and assisting the regular teachers of the lower grades to plan the work done in the regular classrooms:

(a) Manual training.

(b) Drawing.

(c) Home economics.

(d) Music.

(e) Physical education and athletic sports.

(f) Nature study, gardening, agriculture.

(g) Commercial branches.

The better teachers in the lower grades should be promoted with their classes for periods of two or three years, and the poorer ones eliminated.

There should be a gradual reorganization of the method of instruction, which now consists largely of questions and answers based on formal textbook assignments; there should be more use of the problem method, the socialized recitation, and supervised study.

One member of the board of school trustees now serves as secretary of the board, and for this service is paid \$300 per annum. This arrangement should be discontinued, and a capable full-time secretary employed, who will serve as secretary-clerk to the superintendent of schools and also secretary to the board.

The office of the superintendent should be provided with means for the safe-keeping of the school records.

Examples of school programs offered for consideration by the Elizabeth City board may be found in Bulletin, 1920, No. 21, pp. 24, 25, and Bulletin, 1918, No. 48, p. 39.

FORMAL EXAMINATIONS.

The Elizabeth City schools depend to a great extent upon examinations held at stated intervals to determine the "marks" to be given to a pupil and to determine whether he should be promoted.

These examinations have led to "cramming," to undue worry, and to the practice of working with the sole end in view of passing the examinations, thus causing the entire work of the school to center about this one idea. These examinations have helped put a premium upon worry methods, and they have occasioned a vast amount of unnecessary and unprofitable labor for the teacher in reading an endless number of papers.

A test is a useful means of showing the teacher where her instruction has been weak, and where steady, but it is practically useless as a means of determining what pupils should be promoted.

The formal examination has fallen into disrepute, and is but little used in progressive school systems to determine promotions.

COST OF MAINTAINING THE SCHOOLS.

The cost of maintaining the Elizabeth City schools is much below the average for cities of its size, when measured by cost per pupil in average daily attendance, cost per pupil enrolled, and by the tax rate on the real valuation.

The cost per pupil in average daily attendance in Elizabeth City is \$29.39, while the average for all cities in the United States in 1917-18 was \$49.41; the average for cities of 10,000 to 25,000 population was \$44.81.

The average cost per pupil enrolled in Elizabeth City is \$21.88, while the average for the United States, including rural schools, was \$30.91 in 1918.

When compared with a list of cities whose schools are considered good, the cost per pupil in Elizabeth City is very low.

The total tax rate in Elizabeth City for school purposes is 49 cents on the \$100. This includes the State, county, and city rates for schools. The tax levied by the board of aldermen is only 16 cents.

In order to maintain the schools as they should be, the city tax rate for school purposes should be doubled. To this rate should be added enough to take care of interest and sinking fund on indebtedness. This would possibly add 16 cents more, making a total tax rate of 48 cents to be levied by the board of aldermen.

Adding to this the 33 cents now levied by the State and county, Elizabeth City would be taxed 81 cents on the \$100 for school purposes. The average rate for cities the size of Elizabeth City is 66 cents (1917-18); some cities have a rate of 100 cents and more.

If the tax rate were to be increased, say, 30 cents on the \$100, very few persons would have more than \$15 additional tax annually to pay, since 1,219 of the 1,602 individual white taxpayers are assessed at less than \$5,000 and only 6 of the 770 colored taxpayers are assessed at \$5,000 or more.

The following table shows the number of taxpayers and the estimated average amount of the assessed valuation of each:

TABLE 6.—*Real and personal property of individuals subject to city taxes, Elizabeth City, N. C.*

WHITE INDIVIDUALS.

Amount.	Number of individuals assessed (white).	Estimated average amount.	Estimated aggregate amount.
Less than \$1,000.....	590	\$500	\$295,000
\$1,000 to \$4,999.....	629	3,000	1,887,000
5,000 to 9,999.....	204	7,500	1,530,000
10,000 to 19,999.....	98	15,000	1,470,000
20,000 to 29,999.....	23	25,000	575,000
30,000 to 39,999.....	25	35,000	875,000
40,000 to 49,999.....	11	45,000	495,000
50,000 to 99,999.....	14	75,000	1,050,000
100,000 to 199,999.....	6	150,000	900,000
200,000 and over.....	2	275,000	550,000
Total.....	1,602	.....	9,627,000

COLORED INDIVIDUALS.

Amount.	Number of individuals assessed (colored).	Estimated average amount.	Estimated aggregate amount.
Less than \$1,000.....	630	\$500	\$315,000
\$1,000 to \$1,999.....	108	1,500	167,000
2,000 to 2,999.....	21	2,500	52,500
3,000 to 3,999.....	3	3,500	10,500
4,000 to 4,999.....	2	4,500	9,000
5,000 and over.....	6	11,000	66,000
Total.....	770	.....	620,000

TABLE 7.—*Real and personal property of corporations subject to city taxes, Elizabeth City, N. C.*

Amount.	Number of corporations assessed.	Estimated average amount.	Estimated aggregate amount.
Less than \$1,000.....	6	\$500	\$3,000
\$1,000 to \$4,999.....	10	3,000	30,000
5,000 to 9,999.....	9	7,500	67,500
10,000 to 19,999.....	9	15,000	135,000
20,000 to 29,999.....	3	25,000	75,000
30,000 to 39,999.....	7	35,000	245,000
40,000 to 49,999.....	5	45,000	225,000
50,000 to 99,999.....	4	75,000	300,000
100,000 to 199,999.....	11	150,000	1,650,000
200,000 and over.....	3	350,000	1,050,000
Total.....	67	.....	3,780,000

The following summary, taken from the books in the assessor's office, is added in order to supplement the "estimates" in the preceding table:

TABLE 8.—Summary of assessed valuation of property subject to city taxes, Elizabeth City, N. C.

White individuals.....	\$9,343,255
Colored individuals.....	589,825
Corporations.....	3,366,970
Total.....	13,300,050

On the showing of these figures, it is evident that the tax rate for school purposes could be greatly increased, and that very few would have more than \$10 to \$15 additional tax to pay.

IV. SCHOOL CENSUS AND ENROLLMENT.

A school census, taken early in the school year, shows that there are in Elizabeth City 1,857 white children from 6 to 20 years of age. The number of white children enrolled is 1,410. There are thus 462 children from 6 to 20 years of age not in school. Since 154 of these are 19 or 20 years of age, the number of school age not in school is 308. Practically all of these are from 14 to 18 years of age. The following table gives the number of census children by ages and the enrollment by ages:

TABLE 9.—Census of white children—School enrollment.

	Ages.														
	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Census.....	128	152	138	154	139	140	142	114	135	108	131	116	106	92	62
Enrollment.....	127	118	145	147	141	149	143	105	111	82	59	41	21	6	0

It may be noted that at several ages the enrollment is more than the school census. This discrepancy is small and may possibly be accounted for by the fact that the enrollment figures for June included all children in school since September.

Some of these children may not have been in the city when the census was taken and others may have moved in after it had been taken. Then again some children may have been transferred and possibly counted twice.

The important point to note is that many boys and girls in Elizabeth City from 14 to 18 years of age are not in school. This point should not be overlooked by the school board in planning for a new high-school building, for it may be safely predicted that many more of the

older boys and girls will remain in school when a modern high-school building is erected and interesting courses of study are offered.

There are in Elizabeth City 1,314 colored children from 6 to 20 years of age. Of these, 692 are enrolled in school, leaving 632 not in school. The following table shows the number of children at each age, the number in, and the number not in school:

TABLE 10.—*Census of colored children of census age—School enrollment.*

	Ages.															
	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total.
Census.....	111	112	108	96	116	104	101	80	68	103	74	70	65	68	48	1,324
Enrollment.....	82	70	97	78	82	89	82	37	30	19	14	7	4	1	....	692
Not in school.....	29	42	11	18	34	15	19	43	38	84	60	63	61	67	48	632

Of the children 6 to 14 years of age, inclusive, 31 per cent are not in school, while of the children 15 to 18 years of age, inclusive, the high-school ages, 86 per cent are not in school. It is a well-known fact that few of the Negro children in Elizabeth City reach the fifth grade; many barely complete the third. Thus the 86 per cent of children over 14 years of age not in school have scarcely the bare tools, reading and writing, and are but a few degrees removed from illiteracy.

In order to understand the degree of success with which a school system is functioning, it is of prime importance to ascertain the facts concerning the children in the schools, their ages, their stages of advancement, their rates of progress through the grades, and the extent to which they continue in school to the completion of the course.

There is at present no adequate system of records to give these facts concerning the children in the Elizabeth City schools. A special form was prepared on which the teachers gave the information from which it has been possible to derive certain of the more important facts.

AGE-GRADE DISTRIBUTION.

The first step is to arrange the pupils according to their ages and the grades in which they are enrolled. A table showing these facts is called an age-grade distribution; see Tables 11 and 12. Such tables should be prepared for the entire school system at least twice each year, and carefully studied and compared with those made previously.

TABLE 11.—Summary of enrollment in white elementary schools, Elizabeth City.

Grades.	Sex.	Ages.												Total.
		6	7	8	9	10	11	12	13	14	15	16		
1.....	Male.....	58	27	14	6	2	1			1				100
	Female.....	57	18	14	6	2	1	1	1					100
	Total.....	115	45	28	12	4	2	1	1	1				200
2.....	Male.....	6	25	24	20	7	4	5	2	1	1			94
	Female.....	6	45	18	12	7	4	1	1					99
	Total.....	12	70	42	32	14	8	6	3	1	1			193
3.....	Male.....			35	19	18	16	4	1	2				95
	Female.....		3	36	22	16	6	5						88
	Total.....		3	71	41	34	22	9	1	2				183
4.....	Male.....			2	25	12	22	11	5	3				81
	Female.....			2	34	23	12	9	7	3				90
	Total.....			4	59	35	34	20	12	6				171
5.....	Male.....				1	18	17	18	11	5	7			77
	Female.....				1	27	20	15	5	3	2			73
	Total.....				2	45	37	33	16	8	9			150
6.....	Male.....					1	15	12	14	9	3	1		55
	Female.....				1	7	27	21	7	7	4			74
	Total.....				1	8	42	33	21	16	7	1		129
7.....	Male.....						2	14	14	8	3	4		45
	Female.....						2	23	10	5	10	1		51
	Total.....						4	37	24	13	13	5		96
Total...	Male.....	64	52	75	71	59	77	64	47	29	14	5		557
	Female.....	63	66	70	76	82	72	75	31	18	16	1		570
	Total.....	127	118	145	147	141	149	139	78	47	30	6		1,127

TABLE 12.—Summary of enrollment in colored elementary schools, Elizabeth City.¹

		Ages.																	Total.
		5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	21 and over.		
1.....	Male.....	7	24	29	37	16	23	15	4	2								187	
	Female.....	5	47	40	35	24	16	10	10	3	1	1	1					193	
	Total.....	12	81	69	72	39	39	25	14	5	1	1	1					380	
2.....	Male.....		1	1	3	4	9	5	1		1	1						36	
	Female.....				13	10	1	11	7	1								43	
	Total.....		1	1	16	14	10	16	8	1	1	1						69	
3.....	Male.....				2	10	11	8	11	4		1						47	
	Female.....				7	8	8	8	9	5	2							47	
	Total.....				9	18	19	16	20	9	2	1						94	
4.....	Male.....					2	6	11	4	4	1							30	
	Female.....					5	2	8	8	8	1		1				1	34	
	Total.....					7	8	19	12	12	2		1				1	64	
5.....	Male.....						1	2	7	2	2	1	3	1	1			20	
	Female.....						2	7	14	4	6	1	2	1	1			38	
	Total.....						3	9	21	6	8	2	5	2	2			58	
6.....	Male.....							1	2	2		3	1	1	3	1		13	
	Female.....						1	2	4		5	3						15	
	Total.....						1	3	6	2	5	6	1	1	2	1		28	
7.....	Male.....										3	1	3	3				10	
	Female.....								1	2	8	7	3	1			3	24	
	Total.....								1	2	11	8	6	4			3	34	
Total.....	Male.....	7	25	30	42	31	52	43	29	14	7	7	7	5	3	1		213	
	Female.....	5	47	40	55	47	30	46	53	23	23	12	7	3	1		3	304	
	Total.....	12	82	70	97	78	82	89	82	37	30	19	14	7	4	1	3	707	

¹ This table includes all colored pupils reported in Elizabeth City public schools, as follows: Sawyer Town, grade 1, Cale Street, grades 1 and 2; Rhannon Street, grades 2-5; training department, State Normal Schools (exclusive of pupils not resident in Elizabeth City), grades 1-7.

The usual age at which children enter school is 6 years, though many do not enter until they are 7. In considering the age-grade table, therefore, it is customary to regard children of 6 or 7 years of age as "of normal age" for grade 1, and children of 7 or 8 years of age as of normal age for grade 2, and so on.

The first facts to be noted in these tables are the excessive proportions of children who are beyond the normal ages for the grades in which they are enrolled, and the wide spread of ages represented in individual grades, especially grades 1 and 2.

It does not require expert professional knowledge to understand that something is wrong, for example, when white children of all ages from 6 years to 15 years are grouped together attempting to do the same work. Here is a spread of 10 years in the ages of the children, 3 years more than the span of the entire elementary school course. Included in this group are little tots of 6, as well as youths who have entered upon the adolescent period and are old enough to be in the second or third year of high school, and children of all ages in between; and all are trying to do second-year work.

The situation is even worse in the colored schools, where children of all ages from 5 years to 16 years are found in the first grade.

The facts with regard to acceleration and retardation of pupils are summarized in Table 13.

TABLE 13.—Acceleration and retardation—Summary of enrollment in Elizabeth City.

WHITE SCHOOLS.								
Grades.	Number of pupils.				Per cent of pupils.			
	Accel-erated.	Of normal age.	Re-tarded.	Total.	Accel-erated.	Of normal age.	Re-tarded.	Total.
1.....		160	49	209	0.0	76.5	23.5	100.0
2.....	12	112	65	189	6.3	59.2	34.5	100.0
3.....	3	112	68	183	1.6	61.4	37.0	100.0
4.....	4	95	72	171	2.3	55.6	42.1	100.0
5.....	2	82	66	150	1.3	54.7	44.0	100.0
6.....	9	75	45	129	7.0	58.1	34.9	100.0
7.....	4	61	31	96	4.1	63.5	32.4	100.0
Total.....	34	697	396	1,127	3.0	62.0	35.0	100.0

COLORED SCHOOLS.								
1.....	12	150	198	360	3.3	41.7	55.0	100.0
2.....	1	17	51	69	1.4	24.6	74.0	100.0
3.....		27	67	94	.0	28.6	71.4	100.0
4.....		17	47	64	.0	26.6	73.4	100.0
5.....		12	46	58	.0	20.7	79.3	100.0
6.....	1	9	18	28	3.6	32.1	64.3	100.0
7.....		3	31	34	.0	8.8	91.2	100.0
Total.....	14	235	458	707	1.9	33.3	64.8	100.0

From this summary it is observed that more than one-third of the white pupils and nearly two-thirds of the colored pupils are

“retarded,” that is, behind the grades that they would be in if they had entered school as late as 7 years of age and had then progressed at the normal rate of one grade each year. For the white children the amount of retardation is greatest in grades 4 and 5, 42 per cent and 44 per cent, respectively, and for colored children 91 per cent in the seventh grade.

For comparison with other school systems Table 14 has been prepared.

TABLE 14.—Per cent of children under age, of normal age, and over age.

Cities.	Under age.	Of normal age.	Over age.
Elizabeth City, white.....	3.0	62.0	35.0
Elizabeth City, colored.....	1.9	33.3	64.8
Elyria, Ohio ¹	24.3	42.5	33.1
Average, 29 cities ²	29.0	34.0	37.0

¹ See Bull., 1918, No. 15, p. 47.
² Ayres: Identification of the Mislft Child.

From these figures it appears that the amount of retardation in the Elizabeth City schools is not excessive when compared with other cities, though in grades 4 and 5 it is considerably greater. The comparison shows in a striking manner, however, the deficiency of Elizabeth City in the proportion of children who are under age for the grades in which they are enrolled. Only 3 per cent of white children and 2 per cent of colored children are under age, whereas in other cities the proportions are about one-fourth or more.

PER CENT OF DISTRIBUTION BY GRADES.

Next to be considered is the proportionate distribution of the children through the grades. (See Table 15.)

TABLE 15.—Per cent of pupils (white) in each grade.

Grades.	Elizabeth City.	Four States having the 7-4 plan. ¹	Grades.	Elizabeth City.	Four States having the 7-4 plan. ¹
Kindergarten.....		0.26	7.....	6.9	7.23
1.....	15.0	23.61	8.....	7.0	4.06
2.....	13.5	13.65	9.....	6.2	2.42
3.....	13.1	13.35	10.....	3.0	1.53
4.....	12.2	12.86	11.....	3.1	.98
5.....	10.7	11.02			
6.....	9.3	9.03	Total.....	100.0	100.00

¹ See Bul., 1920, No. 11, Table 3, p. 20.

In comparison with average conditions in other school systems having seven years of elementary school and four years of high school, Elizabeth City has fewer children in the first grade and more in the high-school grades.

Table 16 has been prepared to show conditions in the elementary schools separately.

TABLE 16.—Per cent of elementary school pupils in each grade.

Grades.	White.		Colored.	
	Eliza- beth City.	Four States having 7-4 plan. ¹	Eliza- beth City.	Four States having 7-4 plan.
Kindergarten.....		0.29		0.01
1.....	18.6	25.94	51.9	39.28
2.....	16.8	15.00	9.8	17.19
3.....	16.2	14.67	13.3	14.91
4.....	15.2	14.13	9.0	12.29
5.....	13.3	12.11	8.2	8.52
6.....	11.4	9.92	3.9	5.15
7.....	8.5	7.94	4.8	2.65
Total.....	100.0	100.00	100.0	100.00

¹ See Bul., 1920, No. 11, Table 3, p. 20.

From these figures it appears that for the white schools, with the exception of grade one, the distribution does not vary significantly from that of other cities. The distribution of pupils in the colored schools, however, is so abnormal as to suggest the complete lack of systematic grading.

HOLDING POWER OF THE SCHOOLS.

Another measure of the efficiency of a school system is the success with which it retains the pupils until the completion of the course. For each 100 children who enter, how many complete the elementary school course, and how many complete the high-school course?

Answers to these vital questions can not now be found for the Elizabeth City schools; for the essential facts are not available. In the absence of definite knowledge as to the number of children entering school each year for the first time, the answers can be approximate only.

It is possible, for example, to compute the number of children in each grade for each 100 children in grade 1. (See Table 17.)

TABLE 17.—Number of children in each grade, based on 100 in the first grade.

Grades.	Elizabeth City.		Average of 30 cities (white). ¹	Grades.	Elizabeth City.		Average of 30 cities (white). ¹
	White.	Colored.			White.	Colored.	
1.....	100	100	100	7.....	46	9	52
2.....	91	19	88	8.....	46		43
3.....	88	26	77	9.....	41		
4.....	82	18	75	10.....	20		
5.....	72	16	70	11.....	20		
6.....	62	8	63				

¹ Figures for 1918-19; see Bul., 1920, No. 27, p. 21. Average of 30 cities of United States with a population of 10,000 or under.

It is to be observed, first, that these figures are not based on 100 beginners, for, as will appear hereafter, there are many repeaters in grade 1. Here, again, the figures for Elizabeth City compare favorably with those of other cities.

However, further analysis is necessary before conditions can be fully understood.

It is possible to arrive at the approximate number of children reaching any given age each year by computing the average of the numbers over a period of years. For this purpose ages 7 to 12 years are chosen, in order to include the groups least likely to be affected by late entrance to and early withdrawal from school. (See Table 18.)

TABLE 18.—*Number of pupils 7 to 12 years of age in Elizabeth City.*

Ages in years.		White.	Colored.
7.....		118	70
8.....		145	97
9.....		147	78
10.....		141	82
11.....		149	89
12.....		143	82
Total		843	498
Average.....		140	83

The total number of children arriving at school age each year on the average, for whom school facilities should be provided, is thus shown to be approximately 140 white and 83 colored, or 223. If all children enter at about the same age, and progress through the schools at the normal rate of one grade each year, there would be approximately 140 white pupils and 83 colored pupils in each of the seven grades.

If more than these numbers are found in any grade, it is evident that children are repeating their work, or else, in some cases, possibly they have entered school earlier or later than the normal age at entrance. Adequate records in the superintendent's office would assist in determining causes and in planning remedies.

Whatever the causes, Elizabeth City is now maintaining six first-grade classes for white pupils, with a total enrollment of 209, whereas four classes of approximately 35 pupils each should be sufficient. There are seven first-grade classes for colored pupils, with a total enrollment of 360, whereas three classes of less than 30 pupils each should be sufficient.

THE SCHOOLS CARRY AN UNNECESSARY LOAD.

With 140 beginning pupils each year (assuming a stable population, not affected by fluctuations in birth rate, death rate, and other factors), and with normal progress through the grades, the total enrollment in the white elementary school would be 980, and in the

high school, 560; and in the colored elementary school, 581. (See Table 19.)

TABLE 19.—*Number of pupils enrolled in each grade, compared with number of appropriate age for the grade.*

Grades.	White.			Colored.		
	Approximate number at each age. ¹	Number in school of appropriate age for grade. ²	Number enrolled.	Approximate number at each age. ¹	Number in school of appropriate age. ²	Number enrolled.
1.....	140	122	209	83	76	360
2.....	140	131	189	83	83	69
3.....	140	146	183	83	77	94
4.....	140	144	171	83	80	64
5.....	140	145	150	83	85	58
6.....	140	141	129	83	85	28
7.....	140	124	96	83	59	34
Total.....	980	953	1,127	581	535	707
8.....	140	108	97	.....	.....	.....
9.....	140	96	86	.....	.....	.....
10.....	140	70	42	.....	.....	.....
11.....	140	50	43	.....	.....	.....
Total.....	560	324	268	.....	.....	.....

¹ The approximate number of children at each year of age was obtained by computing the average number of those 7 years to 12 years of age, inclusive.

² The number of children in school of appropriate age for each grade was obtained by computing the average of 6-year-old and 7-year-old children for grade 1, the average of 7-year-old and 8-year-old children for grade 2; and so on.

In column 2 of this table is shown the actual number of pupils in school who are of ages appropriate for each grade. For grade 1 is entered the average number of children who are 6 years and 7 years old; for grade 2, the average number of those 7 years and 8 years old; and so on. These groups total, for the white schools, 953 elementary pupils and 324 high school pupils; and 535 colored elementary pupils. In the third column is shown the actual enrollment for the current year.

V. THE ELEMENTARY SCHOOLS.

THE CURRICULUM SITUATION.

The curriculum of the Elizabeth City elementary schools does not meet the requirements of a modern elementary curriculum. It contains no subject that was not taught 30 or 40 years ago in practically all of our schools, unless we except domestic science, and omits still some subjects that our better schools taught fully 50 years ago. The curriculum makes no provision for physical training. It is the first business of any school system to build up the bodies of its children. While the children in Elizabeth City schools have

brief setting-up exercises every day, there is no well-planned course of physical activity and play. Physical education in public school does more to improve the results of instruction than almost any other single factor. The citizens of Elizabeth City should wish to have their children trained in body as well as in mind.

Next, there is practically no music in the schools. What singing was heard was very poor. It should not be necessary to argue for the cultural and moral and physical values of good music. There can be no real community life and unity without it. The churches, civic organizations, clubs, and the like all need members who can sing. Is it not a responsibility of the schools? The citizens of Elizabeth City should expect their schools to assume a large share of the burden of the musical education of the children.

For the reason given for all deficiencies—no money—handwork and drawing have been sadly neglected. The little that is given in manual arts is very poorly done. There are no well-defined courses in these subjects. The citizens of Elizabeth City can not afford to have the latent artistic possibilities of its future citizens go undiscovered because the schools fail to arouse them.

Home economics is very poorly provided for.

Civics is an unknown subject in the elementary grades. Many of the children leave school before reaching the eighth grade, where civics are taught; hence they receive no systematic, well-organized civic training, and they are the ones who need it most of all.

Nature study, or elementary science, is entirely neglected except for brief unorganized series of lessons, often connected with language or geography work. Do the citizens of Elizabeth City desire that their children's love of nature be undeveloped? The love for natural and physical sciences should be aroused and developed. The children of Elizabeth City will experience difficulty in competing with children from other communities in technical fields if no basis for this work is laid.

What do the schools teach? Reading, writing, language, arithmetic, physiology, geography, history, spelling, and some drawing and home economics. Important features of modern public school systems are lacking.

It is a commonly accepted principle of curriculum making that the courses offered should reflect in some measure the local community, to help the child interpret his own environment. Such is not the case in Elizabeth City. The course offered would fit just as well in New England, Alaska, Montana, or New Mexico. The course is made out according to adopted texts from page to page. Most modern school systems write out a course of study to meet their own needs. Elizabeth City has no such course, but should have one.

Modern courses of study are generally differentiated, so that the slower children are not required to do the same amount of work in the same time as the brighter children. The practice of making every child progress at the same rate through school ought to be discontinued. Study of the results in Elizabeth City show that the bright child gets little more from school than the dull child and according to his ability not nearly so much. Is there any reason for holding a child back and giving him less than he wishes to do simply because he was created with more ability than his fellows? The course is entirely inflexible, except as the child bends it to suit his own mentality.

The courses in the subjects offered are much the same as those found in many American communities. The child is occupied chiefly with acquiring facts which, while interesting, perhaps, in some instances, are entirely useless now or hereafter. Practically none of the subjects have anything at all to do with shaping his character or establishing practical, sound ideals. Many of the facts he gets will never be used.

Recommendations.—1. There should be prepared and printed a modern, flexible course of study, adaptable to the needs of individual pupils.

2. Music, art, handwork, home economics, civics, gardening, elementary science, and physical training should be added to the curriculum.

3. The subjects now taught should be reorganized, with the elimination of worthless fact material and the inclusion of useful knowledge.

4. The curriculum should be adapted to the needs of the children of Elizabeth City. It should be stamped with characteristics of the Elizabeth City community.

5. The course should be organized around the large units of study, problems, or projects suitable to the grades in which they are used. Such a course increases interest and is essentially of the type to stimulate activity and initiative on the part of the children.

EQUIPMENT PROBLEM.

Seats, desks, blackboards, and buildings just about complete the list of equipment, and we might well eliminate most of the buildings from the list. The buildings are almost impossible of use, except the high-school building, and it will need modification to be of its greatest use.

School equipment costs money, and since it is used a great deal it will have to be replaced constantly. There is no way in these days of providing good but cheap education. The citizenship of Elizabeth City is responsible for the condition of its schools to the extent

that they have not provided ample funds for the maintenance of well-equipped schools.

Lack of equipment makes it impossible for teachers to do first-class work. Lack of equipment always gives teachers an excuse for doing poor work.

The following essentials in school equipment, without which the instruction in the schools will be greatly handicapped, are recommended:

1. Provision should be made at once for better buildings—particularly for the primary grades and the Negroes. These buildings should be correctly built for light, ventilation, and heating. These factors affect instruction.

2. Laboratories for manual training, home economics, and elementary science are necessary before these subjects can be even introduced into the curriculum properly.

3. There is a need of well-equipped playgrounds, open the year round. The children of Elizabeth City should be permitted and trained to play.

4. The buildings should have gymnasiums and playrooms. Health is the foundation of all good school work.

5. The schools need libraries, open all the year.

6. The classrooms need libraries.

7. The schools need a great many supplementary reading and reference books.

8. The schools are in need of illustrative material: Maps, pictures, charts, globes, manufacturers' exhibits, stereographic and stereoscopic apparatus, moving-picture machines, stereopticons and slides, weights and measures, and a school museum.

9. Space and equipment are needed for school gardens.

10. The primary grades need paper, cardboard, and all sorts of media for handwork and construction.

ORGANIZATION PROBLEM.

The present system of elementary schools consists of seven grades, promotions being made once a year. We recommend the reorganization of the whole system to consist of a kindergarten for children of ages approximately 4–6 years; an elementary school for children 6–12 years; a junior high school, 12–15; and a senior high school, 15–18. The reasons for this are set forth elsewhere. The following recommendations refer to the school organization problem:

1. There should be a kindergarten, a six-year elementary school, a three-year junior high school, a three-year senior high school.

2. Promotions should be made twice a year at least, and more often if possible.

3. There should be special classes for especially gifted children.
4. There should be special classes for retarded children, with care not to put together those mentally weak and those retarded merely because of health.
5. Children in the several sections of one grade should be classified according to ability rather than by physical age or size. This principle should be used with some reservations that will become apparent in its application.
6. The course of study should be flexible enough to fit a flexible grading system, providing more work for the better pupils and full work for each according to his ability.
7. The daily schedule should provide for laboratory and field work.
8. Departmental teaching should be provided in the intermediate grades, if specialists can be secured.
9. There should be a longer school day, made up of recitation, study, manual activities, and play.

THE SUPERVISION PROBLEM.

The chief cause for deficiencies in the elementary schools is the complete lack of supervision of the instruction and leadership for the teaching staff. The schools, both primary and intermediate, are virtually without principals. The teachers acting in this capacity have full-time teaching duties, while the superintendent of schools, who has part of the responsibility in supervision, is entirely too busy to give the attention really needed.

Supervision of instruction means briefly these: The establishment of common aims of work among the teachers; discussion of means to attain these ends; measuring the results of the instruction; and remedial measures to correct and improve the teaching.

No one in the entire system has these things as his duties at the present time. Each teacher does what she can. Skilled advice and helpful inspiration are wholly wanting.

In addition to the instructional side of supervision, there is an administrative routine demanded of a principal. This routine consists of schedule making, discipline, parents' meetings, class organization, reports, physical conditions, janitors, and many other such matters. These things are taken care of now, as added burdens, by two full-time teachers. As a result, their work or the administrative duties must suffer.

The following suggestions refer to supervision:

1. There should be appointed a supervising principal for the primary school and one for the intermediate school. These principals should not be required to teach more than 8 or 10 hours a week.

2. These principals should be persons who have had special training for supervision.

3. With the introduction of music, art, physical training, and home economics, supervisors should be appointed for these subjects, who will devote part of their time to assisting and directing the work in these special subjects done by the regular teachers.

THE INSTRUCTION PROBLEM.

The results obtained in the Elizabeth City schools compare favorably with the results found elsewhere in spelling, reading, and problem solving in arithmetic, while the results in the four processes in arithmetic are far below standard. The work in geography, language, literature, history, and physiology is of the usual sort, and done in about the same study-and-recite fashion common to the average American school. The instruction is neither good nor wholly bad. It is disconnected with modern educational practice. The teachers teach as they were taught and as they have been taught to teach. They make an assignment, the children learn it, and recite it. The ability and power of the ordinary child are never discovered, never utilized.

Such conditions are traceable to the teacher training methods in this country more than to anything else. It is much the same elsewhere as it is at Elizabeth City. Better work can be done. Does Elizabeth City want it? We believe that Elizabeth City would be willing to pay for high-class teaching if it had the opportunity.

The following suggestions refer to the teaching situation:

1. Teachers should be trained both in subject matter and in the methods of instruction.

2. The teachers should be selected because they are intellectual leaders as well as educated persons.

3. The teachers should be required to be social and civic leaders, and should be selected in part for ability along this line.

4. Employment should be open to married women, if necessary, in order to retain good teachers in the system. Good teachers are too scarce to permit marriage to render them ineligible.

5. Teachers should be given a definite course of study, with thoroughly understood objectives to be reached in every grade.

6. The teachers should be given thorough and inspiring supervision.

7. The results of instruction should be constantly measured and necessary remedial steps taken.

8. Teachers should be encouraged to get away from mere parrot-like learning of a book. Children learn more from direct observation and experience than in any other way.

9. The problem or project method of instruction should be employed where applicable in all grades. This will provide opportunity, interest, attention, self-activity, and objectiveness in instruction.

10. Demonstration lessons should be given for the benefit of the teachers.

11. Teachers should be permitted to visit other good teachers.

12. The amount of home study in the intermediate grades should be reduced.

13. The amount of time devoted to spelling, arithmetic, and grammar should be reduced, and the time saved given over to history, geography, literature, music, civics, nature study, physical training, art, etc.

14. Much time can be saved in instruction if the work is organized around big problems, if the child learns by doing, and if useless, unimportant material be eliminated.

15. Supervision should emphasize those types of instruction which develop initiative, responsibility, and self-activity on the part of the child.

KINDERGARTENS.

1. Kindergartens should be established for children from 4 to 6 years of age.

2. The spirit of the kindergarten should be carried on into the elementary school through the application of kindergarten principles to primary work.

3. The primary teachers should have expert supervision and inspirational leadership in applying these principles in the teaching of the regular school subjects and also in teaching manual arts, singing, and games.

4. Modern schoolroom equipment and playground equipment should be provided to carry out this program.

5. Children should be carefully graded by development and not by age.

6. Health inspection and health instruction should be a part of the regular school program.

VI. THE HIGH SCHOOL.

1. The high school should make a definite attempt to meet the needs of those who drop out after only one, two, or three years of study, as well as of those who complete the course.

2. The work of the high school should be based upon consideration of the following main objectives of education: (a) Health; (b) command of fundamental processes; (c) worthy home membership; (d) vocation; (e) citizenship; (f) worthy use of leisure; (g) ethical character.

3. The present plan of seven elementary-school grades and four high-school grades is defective in a number of particulars, among which are:

- (a) Inadequate provision for the needs of individual pupils.
- (b) Large amount of retardation of pupils through method of promotions.
- (c) Large numbers of students dropping out at end of seventh and ninth grades.
- (d) Secondary school course is begun at too late period in the child's life.
- (e) Unnecessary repetition of the subject matter studied.
- (f) Wide divergence of interests and needs can be met better by segregation of adolescent children from younger primary children.
- (g) Poor adjustment between the elementary school and the high school.
- (h) Poor adjustment of school activities to life activities.
- (i) Elementary methods too long continued and too suddenly changed.
- (j) Inadequate provision for individual guidance and direction.

4. Some advantages of the proposed reorganization on the basis of six years elementary school, three years junior high school, and three years senior high school:

- (a) An expected decrease in numbers of pupils who drop out of school in grades 7, 8, and 9.
- (b) More suitable training for the majority of the pupils.
- (c) More adaptation to individual needs.
- (d) More adequate provision for vocational guidance.
- (e) Better plan of promotions.
- (f) Better adjustment between elementary and secondary education.
- (g) Fewer failures and repeaters.
- (h) Conditions more favorable for improvement in the quality of instruction.
- (i) Economy of pupils' time.
- (j) Better adjustment between school activities and life activities.
- (k) Conditions more favorable for study.
- (l) Better supervision of social and recreational activities.

5. The high-school course should definitely recognize the fact that the young people are about to enter agriculture, business, trades, home making, and other occupations.

6. A printed circular should be provided for the guidance of children and their parents, with full description of the work of each course.

7. A limited number of curriculums should be offered, with a minimum of electives, based on the experience of successful junior-senior high schools.

8. Provision should be made for cooperative part-time classes, evening classes, and vacation classes.

9. The quality of the instruction averages up well with that observed in other high schools.

10. There should be a definite salary schedule for teachers, with a plan of promotions based on merit.

11. The present high-school building falls very far short of accepted standards for a modern high-school building, being especially defective in regard to lighting, heating, ventilation, fire protection, general equipment, and provision for special classes.

VII. HOME ECONOMICS.

Home economics instruction should include something more than just the technic acquired in the preparation of a few foods and the making of a few sewing models. It should awaken in the child appreciation of the value and possibilities of a real home.

The instruction should be adapted to the girl's age, interests, mental development, and the racial, religious, social, and economic conditions of her home.

The school must recognize that the physical health and economic stability of the Nation are vitally affected by the wisdom or ignorance of the mass of women as to the laws of health and the use of material goods.

For white pupils two types of course should be provided, general and intensive. The general course should be required of all girls in grades 5 to 9, inclusive, who are of normal age for their grades. The intensive courses should be open to all girls 14 years of age or over.

Instruction should deal with problems related as closely as possible to home conditions and should be correlated with other school subjects.

For the present, emphasis in home economics should be given to work in grades 5 to 9; elective courses for the higher grades may be developed later.

For all colored girls, home economics should occupy an important place in education from about 11 years of age until completion of school; the work should be of the most practical type, with strong emphasis on sanitary practices, good workmanship, and hygienic personal habits.

At least one-fourth of each school day should be devoted to this work.

There should be four teachers of home economics in the white schools and three in the colored schools.

In the white schools there will be needed two rooms equipped for food work, two for clothing work, a small dining room, with suitable storeroom and closets.

In the colored schools there should be provided three rooms for food and clothing work, and one for meal service and practical house-keeping.

VIII. MANUAL TRAINING.

A well-organized scheme of manual training throughout the schools, white and colored, should be developed, both for its general educational value and as an essential foundation for subsequent vocational work.

Manual training is here used in the accepted sense of an educational agency involving not only a method of instruction and a content of valuable subject matter, but a means also of self-directed, purposeful activity.

The object in view should be to incorporate the best features applicable to local conditions that have been developed by progressive communities, with lines of work of such variety and scope as may be practicable.

Handwork should be developed first in the lower grades, and throughout the elementary school should be employed in its various phases for the accomplishment of at least three distinct educational ends: (1) To develop manipulative skill and the ability to "do" things; (2) to impart knowledge of materials and processes of construction; and (3) to vitalize the instruction in the various subjects of study, such as geography, history, language, and science.

In the earlier grades the best results are secured when the handwork is taught by the regular grade teachers. It is much easier for these teachers to relate the work to the other studies and activities of the children. With the progress of the children through the grades, however, the work becomes more and more complicated and the tools and processes more difficult of manipulation. In time the point is reached beyond which it is impracticable to expect the grade teacher to acquire the necessary technical skill and knowledge to carry on this work in addition to all the other requirements of her position.

From this point, probably the fifth grade, the situation may be met by employing special teachers or by a plan of departmentalized teaching.

During the earlier grades the handwork should be substantially the same for boys and girls. With the beginning of departmental teaching a gradual differentiation in the work should be introduced.

In general, the interests of the girls will tend in the direction of sewing, cooking, and homemaking, and the interests of the boys toward shopwork and drafting. Both boys and girls will manifest interest in commercial subjects when properly presented.

For obvious reasons the teachers of drafting and shopwork, as well as of agriculture, for boys in the upper grades should be men.

In the lower grades not less than 30 to 60 minutes per week should be allowed for handwork, but a more liberal time allowance should be made as soon as suitable equipment can be provided and teachers are prepared to do the work. Ultimately from two to three hours per week should be provided.

Supplies of materials in sufficient quantity and variety to make the work profitable and educational should be provided by the board.

In the upper grades.—Even more time must be allowed for manual training in the upper grades if the expected results are to be secured and if boys and girls who now drop out of school in such large numbers are to be retained.

With the right kind of equipment, properly qualified men teachers, and appropriately modified courses of study, from 5 to 7 hours weekly may be devoted to manual training in grades above the sixth, and in special prevocational classes at least one-half the school time should be devoted to practical activities in shop, laboratory, and drafting room.

With the beginning of departmental teaching the lines of work should include thin wood, bookbinding, clay, cement, and plaster, and such other groups as further study of conditions may indicate.

Beginning with the seventh year, the boys should carry still further the problems in bookbinding and woodwork, and to these should be added suitable work in copper, brass, iron, leather, cement and concrete, electricity, mechanical drawing. The woodwork may well include some simple framing and carpentry.

All the shopwork and drafting should be made as practical as possible.

Practical work in gardening, agriculture, and commercial subjects should be developed parallel with the manual training.



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BUREAU OF EDUCATION

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TRAINING FOR FOREIGN SERVICE

COMPILED BY
GLEN LEVIN SWIGGETT
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FOREWORD.

The articles contained in this bulletin on foreign-service training were assembled nearly three years ago. They were contributed by specialists, and deal with subjects which should be included in a fully developed major on foreign-service training for Government, business, social welfare, etc. These articles include, in addition to brief bibliographies of textbooks serviceable for use in college and of other books that may be helpful to general readers, the writers' opinions in regard to the subject matter, the limitation and manner and presentation of this subject matter, its coordination with similar related subjects and amount of time that should be given to it in college and the semester or semesters with college year when it can be best offered. This bulletin is to serve two purposes; it should assist colleges to plan an adequate course of instruction on training for foreign service, and should enable university men now in the field of business to plan for a systematic reading course (Cf. Reading course in foreign trade, Reading course No. 17, Home Education, U. S. Bureau of Education, prepared by Glen Levin Swiggett). Much is naturally left unsaid in this bulletin, but what is said is for the most part brief, vital, and to the point.

Unavoidable delays have prevented the earlier publication of this bulletin. The publication of these articles now, however, is timely. The statistics reported to this bureau for use by the Committee of Fifteen on Educational Preparation for Foreign Service, appointed by the United States Commissioner of Education, have registered since 1916 a steady growth in our higher institutions on the subject of educational preparation for foreign service, for commerce in particular. In October, 1921, the bureau reported courses of study in preparation for foreign service in 70 colleges and universities. Of the 70 higher institutions in which this special training was offered at that time, the 10 highest reported each more than 100 students taking foreign trade, a total enrollment for the 10 institutions of 2,255 students. In Commercial Education Circular No. 7, Bureau of Education, is printed a list of the 70 institutions offering some kind of training for foreign service.

The technique of foreign trade, skill in the actual transaction involved in merchandising, shipping, and financing should be strengthened by an understanding of the principles of commerce, of transportation, and banking; of motives that determine human conduct in social relationships; of Governmental regulations and policies. Courses on practical exporting, therefore, should be supplemented with ample opportunity for the study of the modern languages, the social and commercial sciences, etc.

The variety and character of instruction now being offered as preparation for foreign trade in our larger universities warrant the publication of a bulletin of this character. It is the belief of the compiler that these articles will stimulate still further the marked educational response to the demands of business for a trained and informed personnel in the conduct of our foreign service of Government, business, etc. And this variety and higher type of instruction

for foreign-service training now offered in our colleges and universities is noted with increasing satisfaction by the Advisory Council and Committee of Fifteen on Educational Preparation for Foreign Service, in consideration of the many angles of approach to world trade, and the high level of intelligence, of vision and character, of skill and information essential to its prosecution by an individual corporation or nation.

GLEN LEVIN SWIGGETT,
*Chairman, Committee of Fifteen on Educational
Preparation for Foreign Service.*

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TRAINING FOR FOREIGN SERVICE.

PART I. ECONOMICS.

COMMERCIAL ORGANIZATION FOR FOREIGN TRADE.

By C. S. DUNCAN,

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Introductory.—Foreign trade is domestic trade carried beyond the national boundaries. In all fundamental respects the principles are the same for both; in many incidental features they differ materially. In foreign trade as in domestic trade there are goods on their way to market; in both instances trade is carried on for profit, business is on a pecuniary basis; in both there are producers, consumers, and middlemen; in both there are markets for buyers and sellers, market prices, trade news, advertising, exchanges, transportation, warehouses, financial organization, and all other business paraphernalia. These things may sometimes appear in foreign trade disguised by different names, but in all essential respects they are the same.

The differences, however, are important. Many businesses have made the mistake of treating the foreign market as they treat the home market. In doing so they have overlooked the differences that often count for so much in trade. One of the most obvious distinctions lies in the language used; any extensive foreign trade will necessitate the use of a foreign tongue. While business between countries runs on a monetary standard, the units differ in name and value. There is the question of tariff; of a foreign jurisdiction. There is the matter of business habits and customs, of illiteracy, of purchasing power; there are new and important factors in the trade organization, such as the commission house, the forwarding agent, or the comprador of China.

It seems logical, therefore, that domestic and foreign trade should be closely related in every curriculum. And since the two subjects go hand in hand so great a part of the way, the latter might well follow the former, as rounding out the trade analysis. The student will grasp far more readily the principles of foreign trade if he understands thoroughly the principles of domestic trade. The mechanism of foreign exchange will not seem so strange after the mechanism for domestic financing is mastered. There is, nevertheless, enough material that is distinct in the organization for transacting foreign business to constitute a special study.

Content of courses in commercial organization for foreign trade.—There are three parts to every kind of trade analysis: (1) A study of the commodity or commodities; (2) a study of the market; and (3) a study of the trade organization for carrying the goods to market.

It must follow, therefore, that an intelligent understanding of the trade organization presupposes a knowledge of the goods and the market. Commercial organization, after all, is not a fixed, unchangeable thing; it is a way of doing things by men who desire to attain a result most expeditiously and economically for themselves. However bound by tradition and custom, this economic mechanism is affected constantly by the thinking and the strategy of countless alert and eager minds that are seeking better ways of doing things.

1. *Surplus for export.*—The first problem that presents itself, then, is the kind of commodities that are available for export. The character and quantity of these goods will depend upon natural resources and manufacturing capacity of the country and upon the general policy of the country as to whether it is willing to send out raw materials or is engaged in developing its fabricating facilities. An understanding of this subject demands a knowledge of commercial geography first of all. If such knowledge can be presumed, then the groundwork is already laid for the course. It will be wise, in any case, to take up this subject even if only in review.

2. *Markets.*—If there are goods available for export, the problem immediately arises of finding a market for them. This is the next subject for study in a course on commercial organization for foreign trade. An analysis of foreign markets will involve an examination of character of the people, their standards of living, their trade habits and customs, their purchasing power, what they produce for their own consumption, what they need from abroad. All sources of information on these subjects should be canvassed. The needs of these peoples for our surplus goods, both existing and prospective, will be surveyed. There will be the question, also, of competing and supplementary goods. There is the difficult matter of adapting our goods and our productive capacity to foreign demands. A market is after all only a chance to sell, if possible at a profit; it is a demand for goods backed up by purchasing power, i. e., effective demand. This is what the merchant and manufacturer, both foreign and domestic, are seeking.

3. *Trade organization.*—What kind of organization has arisen to carry these available goods to the foreign market? The analysis of this organization should constitute the backbone of the course. For convenience of discussion this study will fall naturally into two parts: One of these will be the organization within the United States and on the sea for handling goods destined for a foreign market, the other will be the organization in the foreign country for receiving and distributing these goods.

(a) *Methods of contact:* An early step for the merchant or manufacturer in marketing is the getting into contact with the prospective buyer. This is just as true of foreign trade as of domestic trade. There are many ways of doing this, some far more effective than others. One may try to make contact with his market through the mail, either by catalogue, by advertisements, or by sales letters, etc. If the business justifies the expense, either singly or through a combined sales organization under the provisions of the Webb bill, a salesman may be sent. Contact may be had through exhibitions or other means of showing samples. A descriptive analysis should be made of all methods of contact.

(b) *The commission house:* The foremost figure in the commercial organization for foreign trade in the past has been the commission house. What economic services this middleman performs, whether his power increases or diminishes, what his elements of strength and what his weakness, are necessary subjects of study.

(c) *The forwarding agent:* There is, too, the work of the forwarding agent. He may be merely a collector of goods from many small sources into carload lots in order to obtain lower rates. These goods may pass into the hands of a commission house at the port. Or the forwarding agent may do more than take from the manufacturer the worry and bother of making out documents, securing shipping space, and collecting against documents. He may become the foreign department of the exporter, acting in his name and identifying

himself in all respects with the interest of his principal. This specialized middleman should be studied in all the different attitudes that he assumes.

(d) The export department: As foreign business increases in volume, it may become advisable to organize a special foreign department in the business. Methods of organization, training, and equipment for the management of a foreign department are subjects for investigation. Many large businesses in the United States have aggressive and effective foreign trade departments that have been able to meet successfully their most powerful, adroit, and skilled competitors.

(e) Foreign sales organization: Under the Webb Act that became a law in April, 1918, it is possible for American manufacturers to combine in organizing a sales department to handle their export business. The new development in foreign policy in the United States may have far-reaching consequences. It deserves careful examination.

(f) Transportation: There is also the subject of transportation to be taken up. A course in foreign trade should include a detailed study of shipping documents. The ocean bill of lading, the insurance certificate, the consular invoice, and any other special papers that shippers are required to make out should be actually handled by the students until they are familiar with them. The measurement of shipping space and the buying and selling of space are also pertinent subjects.

(g) Foreign distributing organization: The student should be taught something of the commercial organization in the foreign country. The indent merchant, the comprador, the foreign jobber, the foreign retail merchant, whoever is influential in guiding the course of commodities into and out of foreign lands, is a character in the story of foreign trade.

4. *Foreign exchange*.—The best place to take up the subject of foreign exchange is in connection with a study of foreign trade organization. In this way it is possible to show the service performed by the bills of exchange. These should be studied with all the documents attached until they are no longer a mystery. Then the question of exchange rates may be taken up.

5. *Merchant marine*.—It is unavoidable to meet with the problem of a merchant marine in making a survey of foreign trade. In these latter days this is so interesting a subject that there is no difficulty in giving it a place in the course.

6. *Tariff*.—The foreign trade policy is inevitably affected by the tariff policy. This question arises in the foreign trade course, not as a political problem, but as a commercial problem, and should be discussed from that angle. A new point of view may be had by looking at tariff walls throughout the world, and by observing how the flow of trade is stopped or diverted by this means.

7. *Marine insurance*.—Some place should be given in the course in foreign trade to the subject of marine insurance. This survey ought to cover both the perils of the sea and the war-risk insurance. There is also the question of the Government's share in the risk as compared with that of private companies. The cryptic technical terms, such as "general average," "free from particular average," etc., should be explained.

8. *The future of foreign trade for United States*.—The study of foreign trade problems ought to lead to some conclusions as to the future foreign trade of the United States. It might be well to include a detailed study of certain possible markets. This line of investigation may be followed as far as it seems practicable. In any case, the study will enable one to view more intelligently the proper development of foreign trade, the best markets to approach, the best methods to use in reaching a market, the best adjustment of supply to demand. One will also inevitably learn how to find out what he wants to know.

The next best thing to knowing facts is to know where to find them. Some such course as has been indicated here will enable the investigator to work more intelligently on his foreign trade problem.

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INDUSTRIAL AND COMMERCIAL GEOGRAPHY.

By J. RUSSELL SMITH,

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The place of geography in higher education is one of the miracles of the human mind. Our higher education is nearly always planned without any provision for knowledge of the earth in which we are to pass our mortal days.

Land is land, water is water, and with those two sweeping facts as the approximate total of world information, men have for centuries thrown themselves away for the want of a little geographic knowledge. Colonists, traders, missionaries, guided by ignorant faith, have planted themselves on inhospitable shores, where the colonies have shriveled, the traders have failed, and the missionaries have died—all for the want of the simple knowledge that should now be given in any high school or college course in geography.

Geography as a part of education has suffered greatly because of the fact that it led to no definite career. The chemist can get a job as a chemist, so chemistry gets quickly into our curriculum. The geographer, on the other hand, can rarely get a position as a geographer, despite the vital importance of this science as a part of the preparation for business, finance in the broader sense, citizenship, and foreign trade.

The business man, the financier, the trader, and the citizen need to be acquainted with the homeland and other lands as places in which man may live and make a living. This is a personally utilitarian value.

Geography has unappreciated cultural and social value as a part of general education. It is doubtful if any study rivals geography in its ability to serve as a foundation to so many other studies. History used to be the recorded antics of a few men. Now it is being interpreted more and more as movements, which are often little more than the attempts of men to adjust themselves to the factors of their geographic environment. Political economy and finance deal largely with industries and their developments, which in turn depend upon the resources and geographic conditions of certain parts of the earth's surface. It is high time we reached the end of the epoch when men will have to find out all these things for themselves, although carefully taught about the campaigns of Caesar, the development of medieval cities, the details of military history, or the platforms of parties as they tried to master some economic problem that had a geographic origin not mentioned in the chronicle.

We have now entered the era of world trade, and therefore necessarily of world thinking. It is difficult to think about things of which we know nothing. It is necessary for us to know something about the world in which we live,

as a place in which to make a living. Why is one place good and another place bad? Where are the good places and where are the bad places? What are our relations to these different parts of the earth?

It is difficult to think of a kind of educated man who does not need large blocks of knowledge in this field. Certainly the lawyer, the financier, the factory manager, the importer, the exporter, the legislator, the farmer needs it. Even the divinity student needs it, if the missionaries of the church hope to make themselves effective in foreign lands, or even in other parts of their own country.

Good courses in economic geography should, from this time forward, become a part of the education of the man of general culture, as well as of special training. They should be alongside of history, literature, and foreign language, as well as accounting, transportation, business law, and the older sciences.

Arrangement of geography courses in a college curriculum.—A student needs two kinds of geography—first, general geography, and second, regional geography.

1. *General geography.*—Here he gets the tools of geographic understanding, just as the student of mathematics gets the tools of mathematical understanding, namely the power to add and subtract, multiply and divide. The man to whom the world shall be anything but a mysterious exterior, needs to know many things about climate, soil, land surface, that are applicable wherever these things appear. This is sometimes called systematic geography. There are two ways in which it may be taught. One, the simpler and the drier, is to give these tools of geography in an introductory course dealing with heat and cold, wind and rain, hill and plain, mountain, forest, soil, desert, swamp, etc.

2. *Regional geography.*—Courses dealing with particular parts of the world naturally follow this introduction. They may be divided somewhat as follows: United States and Canada, Latin America, Europe and Asia, Africa and Australia.

Any two of the last four may easily be taken simultaneously, thus snugly fitting into a four-year course.

Another way, possibly more interesting, probably more difficult, of teaching the same material, is to intersperse the general geography with a regional study, as for example, the course on the United States and Canada, which may be made introductory by including nearly all of the climatic and general geographic knowledge necessary for the understanding of this region and other regions.

Bibliography, general.—After a student has had one or more courses in commercial and industrial geography, he will receive great benefit and showers of material if he will clip the commerce reports, from the Department of Commerce, Washington, and three or four such magazines as the Review of Reviews, World's Work, and Country Gentleman. If he develops specialties, they can be followed in Poole's Index to Periodic Literature, which covers the general field, and in the magazine, Industrial Management, which covers the more technical fields, but has a large amount of material of value to any student of geography.

The whole field of geographic literature is ably covered in the Geographic Review, published monthly by the American Geographical Society of New York. No person really interested in the subject should miss this journal.

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— *Industrial and commercial geography*. New York, Henry Holt & Co., 1913. 914 p. This book is perhaps more philosophic than Chisholm, but contains fewer facts. It has chapters covering the leading industries, foreign trade, its routes and organization. These books are of college and university grade.

Newspaper almanacs, such as *World Almanac*, contain good collections of statistics at much less cost than the above.

Statesman's Year Book. New York, Macmillan Co. For ready reference; for knowledge of population, area, trade statistics, and governments of all parts of the world, this book has few rivals for convenience.

Yearbook of the United States Department of Agriculture. Free through your Member of Congress. Valuable collection of statistics of agricultural production in all countries.

BUSINESS ARITHMETIC.

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Probably not less than 95 per cent of all mathematical operations, either in domestic or foreign trade, come under the general head of arithmetic rather than that of any other branch of mathematics. Accuracy and facility of arithmetical computation are, therefore, of prime importance to one engaged in any commercial enterprise. Not only should one be accurate and facile in handling arithmetical operations but he should have a thorough knowledge of the subject matter of arithmetic, so that, in the interpretation of problems, he may not only interpret correctly but he may not, at the same time, misapply the principles of arithmetic to the solution in hand.

Emphasis should, therefore, be first placed upon accuracy of calculation, and, second, upon facility of calculation.

These two topics may be considered together because each reacts upon the other, and increase in skill in either adds ability in the other.

How shall one become accurate and facile in making computations? There are one subjective and two objective phases in the process. The subjective phase has to do with the power of concentration. No one may hope to succeed in work of this kind who can not bring his complete and full attention to bear upon the work.

The objective phases have to do with repetition, or drill, and the application of simple, practical short methods of calculation. Other things being equal, the fewer figures one is required to make in a given calculation, the fewer will be the errors, and consequently the greater degree of accuracy. The detection and elimination of errors frequently take more time than was required for the original calculation.

Accuracy and facility of calculation are of little value in and of themselves if their possessor has not also the ability to interpret problems as they arise and apply thereto correct arithmetical principles. Hence one should be ready and accurate in interpretation of problems. Correct interpretation depends upon a wide general knowledge of business customs, together with an exact and definite knowledge of the principles of arithmetic and of mathematics. A general knowledge of commercial law, accounting, and economics is most important. A thorough knowledge of algebra is valuable.

A course of study should include thorough drill in the fundamental operations involving integers and common and decimal fractions. The efficiency of the calculator may be greatly increased by the application of the many short methods of handling these operations.

A study of the relation of numbers, or, as it is frequently expressed, of aliquot parts, should be made. The study of aliquot parts should in no wise be limited to those parts whose base is 100 (that is, 100 cents to the dollar, or to 100 per cent). The study should include aliquots of many numbers. The

principle of aliquots may be advantageously applied to many numbers, and to many operations in multiplication and division. Simple interest calculations are best made by use of this principle.

Percentage must be mastered.

From percentage on through its applications the course should include those topics having to do directly with foreign commercial enterprise. Among the most important are the following:

Metric system of weights and measures and their English equivalents.

Foreign exchange, covering a knowledge of the coinage laws of the countries one deals with. Rates of exchange and method of handling same. Gold imports and exports. Effect of time on rates of exchange. Use of conversion, and interest and bill stamp tables.

Customs regulations of the United States and of countries dealt with.

Methods of reckoning duties.

Equation of accounts.

Cash balance, by the United States, English, and French methods.

Compound interest, and applications to investments, present values, annuities, sinking funds, etc.

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COMMERCIAL PRODUCTS.

By C. W. WASSAM,

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A course which has received little attention on the part of the universities and colleges of the country, but one which should certainly now occupy a prominent place in our teaching of foreign trade is commercial products. Practically all of the textbooks upon the subject of commercial geography give some place to a special study of the product, but not as much as the importance of the subject warrants.

There are several very definite advantages in making the *product* the basis of your study, instead of the country or the region. In the first place, you get a world view of the subject, and it is much easier to secure a proper concept of the product when you are thinking of it in every country and the conditions necessary for its growth or manufacture, instead of making the country or the State, or the region, the basis, and thinking only of the product as secondary.

It is rather difficult to remember that in a certain part of the study of a certain country there was something important stated about a certain product, but if you make the product the basis of your study then all places having similar conditions will be able to produce the same things.

Another very important reason for making the product the basis of the study is that, with increased commerce of the future and the gradual breaking down of trade barriers, the student should be led to see that the country best adapted for the production of a given product should produce that thing. It

is no longer an important question that the United States produces wheat, but what is the place of the United States in the world's production of wheat and in just what way can our production be changed to fit into the commerce of the world.

The study of forestry in the United States has become important in recent years, and the conservation of our forest supply is extremely necessary; but a more important question for the student of commerce is to have a world vision of forestry, and to know what Canada, Russia, Sweden, and other countries could do to meet any deficiency that we may have in our country in the future.

There is also a pedagogical reason for a course in commercial products. It is much easier to keep the attention of the student centered upon some concrete product and from this bring in other important factors than it is to have a country or a region for your basis of study. In the country or region your concept is so large and so complicated that it is difficult for the ordinary student to grasp it and to understand all the important relations. Take the question of climate as an illustration. If you simply teach climate as a part of the general knowledge that one should have of a country, as is often done, the student does not become very much interested, but if you are studying the question of sugar and the student is looking for a suitable climate for the production of sugar cane, you immediately have a concrete motive for knowing about the climate of that certain country. An excellent method used to show the relation between climate and the product is to have the student take an outline map of the world and shade all the countries that have a similar climate, then with another map shade the countries that produce a certain product and the similarity will be apparent at a glance.

At the University of Iowa the writer has found the commercial museum a great help in teaching commercial products. An attempt has been made to collect in the museum samples of the different products in all the different stages of their manufacture or growth. By this concrete method of instruction the students get a very definite idea of the particular product which is being studied. With this definite idea in mind it is easy to bring into the study many other important facts, such as transportation, marketing, conditions necessary for growth or manufacture, and other similar facts.

Some of the more important points which should be considered in the study of an article of commerce are: History of the product; conditions necessary for growth or manufacture, like climate, soil, raw materials, labor supply, capital, etc.; total world's production, and production by separate states or countries; importance in comparison with similar articles; international trade; methods used in marketing; by-products; and future of the industry.

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BUSINESS ENGLISH.

By **GEORGE BURTON HOTCHKISS.**

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Only recently has the subject of business English begun to be recognized as a proper part of school and university training for foreign trade and other fields of business. It is making headway rapidly, however, because the usual course in English composition has not paid much attention to letters, reports, and the other kinds of messages commonly used in business. Some special study of these forms, with practice in their use, is obviously desirable during the period of educational preparation, and the business man rightly expects it of those who enter his employ.

Although the subject of business English is too new to be standardized, there is at least an agreement that its requirements differ from those of literary English composition sufficiently to warrant a separate place in the curriculum. There is also a general agreement as to the fundamental differences and the method of treatment needed.

Business English is distinctly a utilitarian art, practiced for profit. Its ideals are the strictly business ideals of efficiency—maximum results at minimum expenditure. Unfortunately, this has too often meant simply an attempt to reduce production costs. There is a growing tendency now to consider the letter as a producer rather than a product, and to give more attention to the task of increasing its resultfulness. Resultfulness, too, is being regarded not merely as direct response, but the more indefinite but invaluable *good will* of the reader. Business English is more than businesslike English; it is business-building English.

On this simple conception, simpler perhaps in theory than in practice, the whole structure of business English is built. The study itself properly includes three main divisions—principles, technique, and methods.

The first and most essential principle is that business English is less a matter of good expression than of good impression; hence should be written from the reader's viewpoint. Economy of his time and energy is necessary. This involves proper adaptation of the substance and style of the message to the reader's viewpoint, character, and mood. This requirement, to be sure, is not peculiar to business English, but in business English the requirement is more important and more apparent than elsewhere. It assumes special importance in correspondence with foreign firms, whose ideas and ideals sometimes differ radically from those of American business men.

The second main division—technique—includes a careful examination of all structural details, including paragraphs, sentences, and words. These are matters requiring constant revision, even with those whose early training has been thorough. They should be studied as means to an end, rather than as rules to be followed. Business English has also certain differences in requirements, notably in such matters as length of paragraphs and sentences, and in vocabulary.

In the third division—methods—the student really enters the study of business transactions. Business English is literally one-half business. There is nothing more fruitless than to write for the sake of writing. Training in business English, therefore, must give some understanding of the ordinary business situations that require letters, and some knowledge of the suitable method of procedure. Right substance is in business English a preliminary to good style. It has been found in teaching the subject that if the student secures a fair knowledge of the methods that are best adapted to the accomplishment of his purpose, and has the right viewpoint toward his reader, development of good style comes naturally and easily.

A large amount of practice is absolutely essential in a business English course. Such practice should be in the form of solving business problems rather than merely writing letters. The problem states a typical situation which must be handled in such a way as to win the favorable response of the reader and at the same time maintain or restore his good will. There is some advantage in requiring that a part of this practice work be done in the classroom within a limited time. In actual business, writing must often be done under pressure, and it has proved helpful to apply that pressure during the period of training.

The degree of success in training students in business English depends not a little upon the kind of criticism given by the instructor. This should not over-emphasize details of form to the neglect of the more vital considerations of substance, attitude, and tone. Wherever possible, criticism should be constructive and accompanied by specific examples that show the student how a much better impression could have been secured by different handling. The oral practice of dictating letters aloud is valuable, not only for the confidence it gives, but also for the opportunity it affords to develop speaking ability.

There are certain handicaps to the teaching of business English. In the first place, most of the instructors at the present time have to be taken from the ranks of the academically trained. Their traditions have usually not been the traditions of the business man, either in aims and methods, or in standards. Before they can teach effectively, it is necessary for them to discover how business men actually use English. Nor can they rest content with that. The average business letter is not more than 50 per cent efficient, and the teacher can not safely take at random letters even from good business houses as fairly representative of the ideals to be sought. He must analyze, weigh, and compare letters, and also get figures about results. In point of fact, business men themselves have been eagerly searching for ways to improve the quality of their letters and those of their employees. Thousands of them are to-day studying business English through the use of textbooks and extension and correspondence courses.

At the present time the list of textbooks available in the field is somewhat limited, and the majority of these were written primarily for high school rather than university and college purposes. Some of them, however, are equally suitable for the higher schools, and the list will no doubt be rapidly extended.

Another handicap is the difficulty of putting in the hands of students an adequate body of specimens of good letters and reports. Specimen books of exposition, narration, and the like are of well-recognized value in the teaching of college composition. Specimen books in business English will no doubt make their appearance in the near future and prove of equal assistance.

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ADVERTISING AND SALESMANSHIP.

Outline of Practice Work in Technique of Business Courses at Columbia University.

By GUY RICHARD HUBBART,

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Courses in advertising and salesmanship have been established at Columbia University for several years. They are given in the school of business and the division of extension teaching.

Aim and purpose.—From the start the primary aim has been to give students a firm grounding in the fundamentals of advertising and selling, and practice

in the application of principles to definite sales and advertising problems. A secondary aim has been to give students an accurate viewpoint regarding the use and value of advertising and selling as factors in the distribution of goods.

In accordance with the above aims a method of instruction has been developed which takes into account the special needs of three types of students: Those with no acquaintance with business, the purely academic student; those who have had experience in other than the advertising or sales department of a business house; those who are employed as juniors in the advertising or sales departments.

Scope and method.—Instruction includes the study of merchandising, to give the student a definite understanding of goods; advertising, to enable him to tell the story of the goods he has to distribute; salesmanship, to ground him in the value of selling principles and methods; sales management, to give him a firm grasp of the methods of organizing and managing forces of salesmen. Instruction in advertising covers all phases of national, trade, technical, and specialty advertising; instruction in salesmanship covers all phases of retail, wholesale, and specialty selling. A third of the time involved in instruction is devoted to the presentation of sound theory; a third is devoted to the study of principles and their direct application to specified problems in selling and advertising; a third is devoted to actual practice, in so far as this is possible in an academic environment, and to special lectures on certain broad phases of business practice.

Special value of training.—Business men are awakening to the pressing need of better selling, more efficient personal effort on the part of individual members of the sales force, because efficient selling means more productive selling at the same or less cost.

Increased efficiency must have its basis in elementary training which embodies the spirit as much as the principle of modern business practice. It is here that academic training can best benefit the future employer of young women and men, especially if the instruction and training are given by men of broad practical experience who are in business and who are not out of touch with youth.

It costs the average business house as much to train a man for a position requiring creative and constructive ability as the first year's salary is worth; and that means preliminary training, the training requisite for holding a position merely, to say nothing of measuring up to its requirements.

University courses in business really fit men for the beginning of their future growth and usefulness in business activities. The training is of much greater value than an equal number of years of apprenticeship minus the academic training, except, of course, in purely mechanical pursuits. The theory, once held by a certain type of employer, that four years of practical work is better for a salesman than an equal amount of special training under capable instructors is frayed out. This, because practical training alone gives only practice, while practice plus broadened outlook and accurate viewpoint, such as only specialized training gives, is what makes the young worker in business efficient in the real sense.

This point of view is kept constantly in the foreground in the instruction given at Columbia University in the courses in merchandising, advertising, salesmanship, and sales management.

Textbooks are used sparingly, but reference works by the leading business writers are used to supplement lectures and practice work.

A national need.—Educators would do well to encourage the popular presentation of accredited courses in business practice through the pages of newspapers, much in the same way that courses in domestic science, physical culture, and comic features are exploited. This would do much to impress the average business man with the value of special training, and it would put before the future

applicant for business positions the need for thorough training as a preparation for practical work. Ten years ago such a thing would have been impracticable, due to the lack of sound methods of instruction. To-day it is as feasible as it is practical, in view of the fact that universities, colleges, and even business institutions of a progressive type have developed capable men and evolved methods of unquestioned merit.

ECONOMIC HISTORY OF THE UNITED STATES.

By E. L. BOGART,

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The subject "Economic history of the United States" is prescribed for those students who take the course in foreign commerce at the University of Illinois. This indicates in part the importance which is here attributed to this subject. Personally, I regard such a subject as fundamental in preparation for general business or more specifically for foreign trade and foreign service of the Government. The necessary background of fact and of historical development in the growth of the Nation's industries, commerce, agriculture, and other fields of enterprise are here secured. Especially valuable in such a training is the gaining of proper sense of historical perspective, which enables the student to discriminate between events of ephemeral and those of permanent importance, to place things in their proper relations to each other, and to discern the direction of present-day movements. An analysis of trade conditions would gain immensely in value if it were based upon a thorough knowledge of the past; indeed, if the writer lacked this knowledge he might easily draw erroneous inferences and make an incorrect analysis. For the American student of foreign commerce not merely is an acquaintance with the history of commerce in the narrow sense desirable, but also a thorough comprehension of the growth and development of our agriculture, mining, forestry, and fisheries, of our manufactures, tariff legislation, transportation, and banking, and of the organization of capital and labor. The economic history of the United States is not an isolated phenomenon, but throws valuable light upon the march of events in countries, like those in South America, which are now passing through similar stages of industrial development.

In the University of Illinois the course in economic history of the United States is given in the second semester of the freshman year. It is preceded by a course on economic resources and is followed in the sophomore year by the usual course in principles of economics. It does not seem desirable to let first-year students take the last-named subject, but those who register for the business or commercial curricula are eager to have some economics from the beginning. In the course in economic history we feel that they secure a desirable combination of fact and theory, of induction and deduction. The historical background which they obtain is of great service to them in their further study of economic principles and problems. One semester only is given to this course, but they are subsequently given opportunities to elect further courses in the economic history of England and of modern Europe, as well as a more advanced course in that of the United States.

• The manner of presentation is oral quizzes based upon a textbook and a book of collateral readings. Lectures have been given up in order to permit all the time to be used for class discussion. The course is by no means regarded as merely informational, but rather as affording training in accurate presentation of facts, in correct inductive reasoning, and in causal relationships. Written exercises are used in various ways. The writer has even posted a list of historical novels dealing with different phases of our economic development in order to vivify the subject matter but the reading of these is entirely optional.

While the subject is taught by members of the department of economics and is treated as an economic discipline, every effort is made to relate it to the other courses in the curriculum so as to prevent duplication, and also to the other social sciences, especially the regular courses in American history. For many of the other economic courses economic history is regarded as an introduction. The historical framework is here provided into which later other courses may be fitted which shall elaborate some special subject. The course in economic history seems the one best adapted to serve as the general introduction which shall link together the rest of the work of the student in the college of commerce and business administration.

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TRYON, ROLLA M. HOUSEHOLD MANUFACTURES IN THE UNITED STATES, 1640-1860: A Study in Industrial History. Chicago, The University of Chicago Press, 1917. Pp. xii, 413.

By the publication of this volume Prof. Tryon has filled a gap in the industrial history of the United States and especially in the history of manufactures. The field which he essays to cover had hitherto been neglected, the

writers on manufactures usually interpreting that word in the popular rather than in the etymological meaning. The phrase "household manufactures" in Prof. Tryon's book is defined to include only those articles made in the home or on the plantation by members of the family or plantation from raw material produced largely on the farm where the manufacturing was done. It does not include articles produced under the handicraft, shop, mill, or factory systems, each of which marks a subsequent stage in the development of manufactures in the United States.

As to the importance of this subject during the period covered there can be no question. The following quotation does not overstate its claims for consideration:

It is certainly no exaggeration to say that civilization could not have been maintained in sections of the New England and Middle States during the colonial period, and on the frontier everywhere for several years after the appearance of the first settlement, without the system of household manufactures.

The task of collecting and winnowing the material, and of assembling and interpreting it, has been well done by the author. A clear picture is given of the characteristics of household manufactures, their place in the domestic economy, and their value in supplying the needs of the people. During the colonial period they were pursued from necessity and were local in scope. After 1765 they were definitely and purposely developed as a method of resistance to England's colonial policy. This development continued throughout the Revolution, suffered a sharp decline after the declaration of peace, but was revived again about 1790, and continued until our industrial independence was assured and the household manufactures were supplanted by the factory system.

The study is a careful, able, and scholarly piece of work, which supplements admirably the recent "History of Manufactures," by Victor S. Clark. The further work to be done in this field must now consist of more intensive studies of particular industries, of which there exist already a few excellent ones, or of particular localities and periods.

Valuable historical and statistical material can also be found in the Census Reports, especially those for 1860, 1880, and 1900, and in the Reports of the Departments of Agriculture, of Commerce, and of Labor. The occasional reports of various temporary commissions should also be consulted for special data, as those of the Industrial, Monetary, Immigration, Federal Trade, and similar commissions.

ECONOMIC GEOGRAPHY OF FOREIGN COUNTRIES.

By GEORGE B. ROORBACH,

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One of the fundamental studies to be undertaken in connection with the subject of foreign trade is included in economic geography. To plan for the development of trade in any part of the world requires an intimate knowledge of the land and people with which trade is to be carried on. This study will include a consideration of the position of the countries in respect to other lands and to trade routes; the physical features, climate, and natural resources as they determine or influence the industries, life, and trade of the people; a description and explanation of the present economic conditions as determined by the facts of geography, history, and peoples; and an attempt to interpret the possible future development of the country and its trade as indicated by

an examination of the underlying physical, racial, and economic conditions of the present.

At the Wharton School of Finance and Commerce, of the University of Pennsylvania, the work in economic or commercial geography has been planned as follows: During the freshman year, all students are required to take a course in "Economic resources." This considers during the first semester the fundamental natural economic resources, their importance, uses, location, and the question of their conservation as it is related to the industrial community. During the second semester, type regions are studied as examples of the way the fundamental physical factors of location, climate, surface features, and resources affect the economic development of different parts of the world. Such widely divergent regions as England, Spain, China, Columbia, and California are studied in a general way.¹

In the sophomore year, the student may elect either a three-hour per week course in "Manufacturing industries of the United States," which is a detailed study of the United States from the industrial point of view, or a three-hour course on "Industrial districts of the United States," which makes him familiar with the various sections of our own country. During the sophomore year, also, the student may begin the actual detailed study of foreign countries, and continue this study, if he so desires, during the last two years of his college course.

There are three such courses offered, each requiring two hours per week for the entire year. These courses are: 1. "The economic and political geography of Europe and Africa;" 2. "The economic and political geography of Asia (including Australia);" 3. "The resources and industries of South and Central America." The general method of presentation is the same in all three, except that more attention is given to political affairs in Europe and Asia than in the South American course. In each case, the general facts concerning physical features, climate and resources of the respective continents are outlined in relation to their effects upon industries, commerce, and peoples. Then, in more detail, each of the political divisions is studied. Emphasis is, of course, put upon present, and the probable future, commercial relations of the countries studied with the United States. The imparting of information concerning foreign countries is not the chief aim, although this is important. The attempt is made to give such an interpretation of the country that the student will have an understanding knowledge of the land and its people in order that he can form his own judgments concerning its economic and commercial possibilities and needs. Be his interests in the country, commercial, financial, industrial or political, the student will then at least have a background that should help him in the formation of sound decisions and the planning of wise policies when the occasion arises.

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¹ This statement was prepared at the time the writer was assistant professor of geography at the University of Pennsylvania.

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FOREIGN AND DOMESTIC MARKETS AND TRADE

By EDWARD D. JONES.

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Our problem at the University of Michigan, in giving specialized economics courses, is to adapt them to the requirements of undergraduate students. Our

students are taking a regular college course, and are electing programs of courses in economics as a semiprofessional element which must be adjusted to the other requirements of a general college course. Our work is given in the college of literature, science and the arts, and not in a separate school or department of commerce and business administration. This limits us materially in the development of the technical aspects of subjects connected with special occupations. In a course on foreign trade conducted last semester, probably not one of the 55 students would ever have any direct and immediate connection with foreign trade. Our inland location, and our non-professional character, indicate a different conception of a course from that which would be appropriate for a commercial school in a seaboard city.

Nevertheless, since this course was offered for the first time, and since so much has been said in the discussions of the national foreign trade conventions about courses of study with teeth in them, it was decided to devote one-half of the time to technical questions, and one-half to general foreign trade policies.

There were presented, therefore, in the first half of the semester, such subjects as the present situation of American manufacturing industry with reference to outlets, the probable advantage of American industry in international competition, the method of making a systematic analysis of a foreign market, advertising in foreign trade, the training and handling of foreign salesmen, the use and protection of trade-marks, the organization of a foreign sales department, the arguments pro and contra with reference to allowing combinations in foreign trade, the technique of a sale (including terms, weights and measures, moneys, guarantees, etc.), transportation and shipping (including a description of all the documents required), credit and finance (bank credits, book accounts, drafts, etc.). To this was attached a discussion of branch banks as competitive agencies. This section of the subject was closed up by studying the effect of foreign investments, the various forms of Government aid available to the American exporter, the various types of tariff in existence, and the general character of the network of commercial treaties in existence. The functions performed by the various classes of agencies were also considered; such as manufacturers' export agents, export commission merchants, etc., available to aid the American manufacturer. All of these matters were handled very briefly. Use was made of Mr. E. W. Zimmerman's *Foreign Trade and Shipping*, supplementing it liberally with B. O. Hough's *Practical Exporting*, readings selected from the *Proceedings of the National Foreign Trade Convention* and the *Exporter's Encyclopedia*. A few problems in this part of the semester were also used. When we finished we had merely glanced at the economics of ocean freight rates, had done nothing with foreign exchange, and were convinced that four or five times as much effort would be required to get the technique so that it would be of any material and lasting advantage to a young man who might be going into a foreign sales department. Such a thorough and adequate course, as intimated at the beginning is not thought to be justified in a Middle-West State university at present.

We then turned to the study of the general economic conditions of the chief supplying and receiving countries in international trade, and to foreign economic policies. This study we amplified by dividing the world into a few economic types, and considering the problems which arise from the increasing impingement of type upon type. We studied the problems of the British Empire, of Germany, of the new countries (Australasia, Argentina, etc.), of the Far East (China and Japan), of the Levant, and of the Tropics. For this work we were compelled to resort to readings chosen from many sources, for illustration; Bryce, *Relation of Advanced and Backward Races*; Ross, *Foundations of Soci-*

ology; Shadwell, Industrial Efficiency; Dawson, Modern Industrial Germany; Smith, Chinese Characteristics; Bell and Woodhead, The China Yearbook; Kidd, The Control of the Tropics, etc.

In this section of the course use was made of a great many problems. A small working collection of perhaps 25 volumes was put in the department library, including such works as Fullerton, Problems of Power; Naumann, Central Europe; Hauser, Germany's Commercial Grip on the World; Hornbeck, Contemporary Politics in the Far East; Coolidge, The United States as a World Power; Seymour, The Diplomatic Background of the War; and Calderon, Latin America. This literature the class worked with, in response to definite problems set them. This is illustrated by a problem chosen at random; giving the problem and the answer briefed out, as prepared in notes for the quiz section:

SAMPLE PROBLEM WORK.

Problem: How did the diplomats attempt to solve the problem of Morocco by the Algeciras act? What brought about their failure?

Reference: Walter Lippman, "The States of Diplomacy," Ch. X, Algeciras: A Landmark, pp. 145-149. Univ. of Mich. Library call number 351 L77.

Answer (briefed):

Convention at Madrid, 1880.

All agreed to integrity of Morocco.

Equal trade privileges for all nations.

Plan did not work out.

Emperor William's visit to Tangiers.

Convention at Algeciras. 1905. The act.

Police under Sultan.

French and Spanish officers (46-60) to aid him for 5 years.

Inspector-general to be a Swiss, 5 years. Report to Morocco.

File copies of reports with powers concerned.

Morocco State Bank.

Spanish money to be legal tender.

French corporation law applied.

Censors appointed by German Imperial Bank, Bank of England, Bank of Spain, Bank of France.

Matter of taxes, acquisition of property, customs duties, navigation laws, public works, etc., settled between the Moorish Government and the diplomats.

Fraud and smuggling controlled by customs valuation commission.

Public contracts to be by bid, without respect to nationality.

This an attempt to form a sort of international control; a "Dependency of a World State."

Causes of Failure.

Intrigues.

National rivalries.

Bargains.

Plan "calls for a loyalty larger than the patriotism to which men are accustomed."

Historical precedent. "When we think how difficult a task it was to bring about Italian, German, and American union, we need not be surprised that the experiment with a world state to control Morocco should have ended in disastrous failure."

Four or five such problems were given out at a time, each one to a small section of the class, so that books would be available. The class appeared to enjoy this study very much, regretting the time which had been spent on technique. The readings and the problems were held together by lectures, which aimed to give in outline the industrial characteristics of the sections of the world being studied.

FOREIGN MARKETS AND TRADE PROBLEMS.

By PAUL T. CHERINGTON,

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Manufactures have figured conspicuously in the export trade of the United States since about the year 1895. Before that time a large number of manufacturers were doing a thriving export business, and several American merchant houses were selling in foreign countries large quantities of American manufactured products. The statistical measure of the value of American exports indicates, however, that about that time the increase in the exports of refined petroleum, bar copper, steel, agricultural implements, and a few other lines of manufactures, marked the beginning of what was really a new stage in American export history—a stage in which manufactured products became conspicuous in our exports as compared with agricultural products.

It is well to keep in mind the fact that our exports of manufactures, large as they became, did not materially surpass in value our exports of raw cotton alone for more than 10 years after this increase in the exports of manufactures actually began.

Vigorous and in the main well-conducted agitations in favor of increasing the exports of manufactured products have been conducted in this country for about 20 years. Notwithstanding all of these agitations, however, the percentage of the total number of manufacturing concerns in the country which are intelligently conducting a successful and profitable export business is still small. It seems to be a fact that even now, notwithstanding all the interest of foreign affairs which may be expected to follow the war, the number of concerns which will be willing to pay the price for an intelligent development of export business will be small compared with the total number of concerns doing business in this country which might be said to be in a position to actually undertake some kind of foreign business.

This prediction is not based on any assumption of lack of astuteness on the part of American manufacturers. On the contrary, it is based upon the assumption that most of them have well-developed skill in recognizing places in which they can best sell their goods and the methods which they can most profitably employ. Most American manufacturers are not prepared for conducting foreign business, and they have the good sense to know it. Those who are prepared either temperamentally or by training, or who are willing to invest the necessary time and effort in securing preparation, probably will represent a very small percentage of the total number of American manufacturers for years to come.

Perhaps the most characteristic feature of the American business man is the consistency with which, at least in his commercial operations at home, he may be counted on to take a wise and profitable course without being able to tell accurately why he did it. As long as he had the largest free-trade area in the world in which to operate, and as long as this area was expanding in its purchasing capacity every year fast enough to take care of the most vigorous new competition, this dependency on "native wit" was satisfactory. There has been a growing conviction, however, during the past few years that these conditions were in process of change and that this intuitive ability was going to require supplementing with an increasing amount of inquiry into the underlying reasons for economic phenomena. The rapid rise of training for business of college grade and of the professional school type is perhaps the best evidence of the spreading acceptance of this idea.

What has been true of domestic business in regard to this change in the attitude toward educational preparation is at least equally true in foreign business.

In the case of foreign business, however, the educational facilities are hampered by the greater complexity of the problems offered, by the more profound lack of elementary instructions in the underlying principles, and by the spread of a number of misconceptions. All of these make the problems of education in foreign trade more serious than they otherwise would be.

The question is often raised why the American manufacturer who displays such a high degree of ability in developing his domestic business has made such a pitiable record in many instances when he has undertaken to do foreign trading. The fact that such cases have occurred is beyond dispute. There is, nevertheless, a distinct increase year by year in the number of concerns which are approaching export trade in the spirit which assures success. They have no illusions, and they are filled with neither the spirit of the pioneer nor that of the commercial missionary. They are attacking export business with the same good sense they have used in attacking corresponding problems in domestic business. The point I want to make clear in connection with all of this is that certain American manufacturers and merchant houses "discovered the work" several years ago and those who have attacked the task of developing an export business in the same spirit in which they would have attacked it at home have made remarkable successes. At the same time the great company of concerns which have attacked the problem in a false spirit of adventure and with their minds obscured by complex misconceptions have uniformly met with a greater or smaller degree of failure.

No matter what postwar arrangement is entered into for the supervision of control over international commerce, it is reasonable to assume that competition for trade will be of the very keenest sort. Notwithstanding international agreements, it is safe to assume that the element of scramble will be very large and that national lines will be emphasized more than ever even under the old conditions. One of the rudest shocks experienced by most American exporting manufacturers was the discovery that there was no such thing on the planet as an "unoccupied market" which was worth having. Americans who had built up their business in this country under the sharpest kind of competition between American producers, and who were in many cases operating behind a tariff barrier, thought they knew something about competition. Their ideas, however, had to be revised when they undertook to sell goods in competition not only against foreign manufacturers but also against American manufacturers and merchants. They came to realize then that the sort of competition which they encounter in any one of these "unoccupied markets" is of the sort they could expect to encounter in this country if the volume of trade here were substantially diminished and the tariff barrier removed.

With this conception of what a "market" is and of the conditions of rivalry which may be expected to develop, it becomes clear that American manufacturers and merchants can no longer depend safely on the "depressed brain market" of other countries for their supply of young men to conduct their export business. Those markets for brains no longer are depressed by an oversupply of suitable men nor by the lack of opportunity for these men to serve their own fellow country. Moreover, it is evident that the American young men who must now be depended on to develop American export business must have not merely the right spirit and the right natural equipment, but they must have a type of training not hitherto generally available in this country.

Care should be taken not to leap at once to the idea that the type of training called for in the preparation of these young men should necessarily be the same type which has been employed successfully in training young men of other countries. The indications are that young men for export business in this country will have to be partly a product of the educational system and

partly a product of the merchandising mechanism which has been developed in this country and which has many points of too great value to be sacrificed.

The educational system of the country is going to find itself taxed to the utmost to develop a satisfactory system of training in international ideas and sales technique in economics and in the other underlying principles which will give to young men a conception of international commerce which, while strictly in accord with the facts, will at the same time be grounded on sound underlying principles.

Sales methods and traditions which have been developed in this country constitute perhaps the most valuable single resource with which the United States can hope to meet competition in foreign markets. In many respects the technique of salesmanship has been developed in this country more satisfactorily than it has anywhere else. The best elements of this development must be preserved and incorporated in any attempt to spread American commerce. In this work the educational system will require the close cooperation of business men.

The great task before the United States in the preparation for the expansion of foreign business is not the imitation of the methods of other countries but the adaptation of American methods to foreign conditions.

In summary it may be said that the problems before the United States in developing foreign business and particularly export trade involve a wide variety of apparently divergent undertakings, all of which must be made to work together toward the accomplishment of a single end. Perhaps chief among all of these is the preservation of American skill in selling technique, and its adaptation to new conditions. It will be a serious mistake, however, to treat this independently of the great host of other problems which must be worked out together. The development of an adequate financial system, the development of an adequate mechanism for delivery of merchandise and communication, the working out of a consistent national commercial policy and the training of men for foreign trade as a serious and exacting business, are simply a few of the problems which the fostering of American export business involves.

HARVARD UNIVERSITY COURSES ON FOREIGN TRADE.¹

The following paragraphs describe the courses at Harvard University on foreign trade and foreign trade methods:

The war has had two marked effects on American foreign trade. The first is the serious alteration of its volume and character, growing out of the disturbance of economic conditions here and in Europe. It is probable that the export trade in American manufactures will assume a permanently increased importance.

A second effect of the war upon American foreign trade is the curtailment of the supply of young Englishmen and Germans who formerly were available on favorable terms as recruits in the service of American concerns engaged in either importing or exporting.

These conditions have turned the attention of American houses in the foreign trade to the question of securing young Americans for this work. The foreign trade field therefore is more attractive as an opening for the American college man than it ever was before.

Our foreign trade involves many difficult problems, the solution of which requires familiarity with business conditions in foreign countries as well as

¹ This statement was prepared at the time the writer was a member of the faculty of the Harvard Graduate School of Business Administration.

in our own and with international trading methods. In the import trade, direct foreign purchasing by manufacturers, import houses, and department stores, for example, calls for a wide knowledge of the sources whence the goods are to be obtained, of the agencies by which the trade is carried on, and of other features of the commercial mechanism. This is distinctly more urgent than was the case when the trade was handled more largely by commission houses.

Some American manufacturers and some American merchant houses already had made remarkable records of success even before the war conditions developed. But as a whole, American manufacturers and merchants have not put forth the serious and consistent efforts necessary for building up an export trade in manufactured goods. It is becoming increasingly clear, however, that foreign markets for manufactured products can not be secured by following the policies of the exporters of raw materials. Manufactured wares must not only be offered for sale; they must be pushed and pushed intelligently with due reference to distributing methods and the marketing conditions. Merchandising methods are, in some lines, quite different in the United States and foreign countries.

Both import and export trades are studied in these courses. But the greater emphasis is laid on means of placing goods in foreign markets, the competition which is likely to be encountered, the probable demand for various products, and how these products are actually to be distributed to the foreign consumers. Opportunities for capital investment in foreign countries are also considered. The courses are informative in that they describe the geographical, social, and industrial conditions which form the essential background of international commerce. They are analytical in their search for the reasons why particular methods are used and why special developments are taking place in special trades.

The analogies and contrasts with the merchandising methods in the domestic trade of the United States make such study profitable even to students who do not plan to enter the import or export trade.

FOREIGN TRADE METHODS.

The central question in this course is: How is American foreign trade carried on? In import trade, for instance, the ground covered includes such matters as the selection of sources, establishment of connections, internal organization, and the development of markets; and in the export trade, the selection of markets, the selection of exporting methods, the determination of export price policies, relations with commission houses and agents, and problems of order execution, such as packing, shipping, insurance, forwarding, exchange, credits, and collections.

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THE CHEMISTRY OF COMMERCE.

By J. H. JAMES,

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1. THE FIELD.

To the chemist, in the last analysis, the expression "chemistry of commerce" means exactly the same as industrial chemistry. Everything that is manufactured, into which chemistry enters at all, would be included under the term chemistry of commerce, since, of course, all manufactured goods enter into the commercial life of the nation and of the world. Chemistry has to do with a great range of articles of manufacture which are not ordinarily regarded as chemical. One would, for example, hardly place rubber manufacture in the group of chemical industries, but to-day rubber manufacture is absolutely dependent on the chemist. In fact there are more industries not commonly called chemical than there are that produce for the markets of the world the products ordinarily called chemical, such as acids, alkalies, salts, explosives, dyestuffs, synthetic drugs, photographic chemicals, etc. The group of industries not ordinarily called chemical yet in which chemistry is essential would include as the more important members pulp and paper manufacture, rubber manufacture, paint manufacture, pottery manufacture, the dyeing and bleaching industries, the manufacture of food products, soap manufacture, the fermentation industries, the petroleum industries, coal and fuel gases, artificial silk manufacture, artificial leather manufacture, artificial plastics, casein products, the manufacture of primary batteries, storage batteries, the electroplating industries, etc.

All our manufactures involving chemical operations have reached their present stage of development through one of two channels. In the older group, including glass, ceramics, paints and varnishes, soaps, leather, the fermentation industries, rubber, and some heavy chemicals, the manufacturing practice was built up from practical observations entirely, with no knowledge or thought as to the fundamental chemical principles underlying the whole, such procedure being commonly known in engineering circles as "the rule of thumb." Having attained a certain proficiency in these lines by empirical methods alone, these manufacturers have naturally been rather conservative in their adoption of improved methods and processes, until forced to do so by the success of competitors who evidence more progressiveness in calling in the aid of scientifically trained men. The other group of manufacturers includes all those that have been the direct product of scientific research; the so-called coal-tar colors, synthetic essential oils, synthetic drugs, synthetic food products, all electrochemical and electrothermal products, such as calcium carbide, carborundum, artificial graphite, electrolytic alkali and chlorine, electrolytic chlorates, etc. Each of these industries, instead of evolving by methods of blind experimentation along rule-of-thumb lines, were in almost every case worked out with scientific thoroughness by men of fine technical training who utilized their knowledge of chemical science and engineering to bring the process to a point where the industrial exploitation was a success because the chemical principles underlying the operations were thoroughly understood.

The almost fabulous success of these newer chemical processes has had the effect of stirring to greater activity those manufacturers of the older group noted above, and the improvements effected by the employment of trained scientific men in these lines have in many cases been quite as remarkable as the development of the newer processes themselves.

2. FUTURE DEVELOPMENT IN INDUSTRIAL CHEMISTRY.

It is interesting to note the relative advancement of the various sciences at various times. It is well known that there were more epoch-making discoveries in physics in the nineteenth century than in chemistry. However, the science of physics was further advanced at the beginning of that century than chemistry, which had, as a matter of fact, really just attained standing as a science a few years previously by the work of Lavoisier and others. Before that period, included in the closing years of the eighteenth century and the beginning of the nineteenth, chemistry was hampered by the vagaries of the phlogistonists, and earlier still obscured by the mysticism and fraud of the alchemists; so that the real development of chemical science took place in the last century. What 100 years in development in chemical science has done for modern civilization is evident to the most casual observer.

During this time the scientific study of the behavior of matter has laid well the foundations for future progress. With the momentum thus acquired, we have really only begun in the development of chemical science and the chemical industries. When it is considered that it is impossible now for an educated chemist, working all the time, to even read the results of all the chemical research that is being carried out, some idea can be gained of the enormous additions that are being made to chemical knowledge and the impetus that industrial chemistry is sure to receive from such work.

A few of the lines of industrial chemical development may be indicated in the following processes, each of which is either under way beyond the experimental stage or in the experimental stage with correct theoretical grounds for certain success:

The manufacture of all nitrates from nitrogen of the air.

The recovery of potash from feldspar.

The manufacture of new products from denatured alcohol.

The manufacture of acetylene from new sources.

The utilization of natural gas as a source of new chemical products.

The use of electric current in preparation of inorganic as well as organic compounds.

The utilization of the hydrocarbons of petroleum as sources of new products valuable commercially.

The production of substances of great industrial value from cellulose.

The synthesis of india rubber on an industrial scale.

The production of compounds of industrial value from coal without destructive distillation.

The manufacture of a substitute for linseed oil in the paint industry.

The preparation of artificial products to replace varnish gums, the supply of which is decreasing rapidly.

The discovery of an efficient preservative coating for iron and steel structures.

3. CONTENT OF A COURSE IN THE CHEMISTRY OF COMMERCE.

It is evident from the foregoing that our subject covers a very broad field. However, here we have a good example of one of the benefits of scientific development; a student well grounded in the fundamentals of chemical science can in a short time master the manufacturing details of any process which involves chemical reactions. Chemistry as a science is now so well worked out that it has become the handmaid of manufactures.

To properly train a student then for modern commercial life, a certain amount of chemistry should certainly be included in his training. While the chemist would say, "let him take a course in chemistry," it is evident on second thought that the commercial student must devote a considerable part of his time to subjects needed for the business side of his future work.

First of all, a good course in general chemistry should be given. This may correspond closely to that given in any of our technical schools in the freshman year. The lectures and quizzes should amount to approximately three hours per week for a year, while the laboratory work to accompany this should be about three hours per week for a like period.

At this point, educators will differ. The writer has through 15 years of teaching experience consistently held to the idea that the student who does not intend to follow chemistry as a profession, but needs chemical knowledge as a part of his preparation for the business end of manufacturing and trade, should not be required to take up any analytical chemistry whatever. Admitting that qualitative analysis, for example, gives a fine training in manipulation and fixes firmly in the student's mind certain chemical principles yet for the student under discussion it is hardly a profitable subject for him to spend time on.

It would appear that the freshman course above should be followed by a course in organic chemistry. This should be scheduled for two lectures per week for a half year, with three hours per week laboratory work for the same time. While such a course is very much abbreviated, and would not do at all for a chemist's training, it will give the commercial student a sufficient amount of knowledge concerning this very important field to take up the next course.

The final course in the chemical group that the writer would propose for commercial students is that of industrial chemistry. In this course not only should the chemical principles involved in each process studied be emphasized, but the source, cost, and purity of each substance entering into the operation should be brought out in each case. This course should occupy two or three hours per week for a year. The writer has found that a good plan is to teach industrial chemistry by the seminar system; each student is assigned certain processes, such as sulphuric acid manufacture, the manufacture of by-product coke, the manufacture of glass, etc. One hour, and sometimes more, is given to the discussion of one topic, the student himself being the lecturer for that day. He must come to the classroom prepared with charts, lantern slides, and sketches to illustrate his topic. In this way, what might otherwise be a rather dreary routine of lectures or recitations becomes one of the most interesting parts of the student's school work.

The writer realizes that the foregoing grouping does not include as much as could be profitably used by the student in his later career, but in this as in all other course arrangements educators are and probably shall always be compelled to compromise between what he would like to do and what circumstances compel him to do.

As to the correlated subjects that should accompany the foregoing group—mathematics through analytical geometry, general physics, preferably the physics given to engineers in our technical schools.

The time of the chemical subjects listed above should be approximately as follows: General chemistry, freshman year; organic chemistry, either sophomore or junior year; industrial chemistry, either junior or senior year (after organic chemistry is completed).

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TROPICAL RESOURCES AND HYGIENE.

By DAMASO RIVAS,

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While in general it may be said that the wealth of a country is judged by the natural resources it possesses, in a more concrete sense the development of such resources has in reality a more direct bearing upon that index. The vast resources of the Tropics, for instance, are almost inexhaustible, and yet it is common knowledge that they have remained for generations practically unused and only recently have been but merely touched, this being due in part to the prevalence of diseases which make those regions almost uninhabitable.

In the discussion of this subject a brief outline will be given first concerning the resources of the Tropics, and secondly the sanitation of those regions with special reference to the intimate relationship which the one bears to the other.

It is beyond the scope of this article to deal in any great detail with the resources of the Tropics. A general and brief résumé, however, drawn from the references given at the end will answer the purpose. For the same reason the discussion will be limited to the resources of tropical America, with which the writer is better acquainted, although what applies to tropical America may be said to apply more or less to other tropical countries.

TROPICAL RESOURCES.

In tropical America are found almost all the minerals, from coal and iron to silver, gold, and precious stones, and also the diamond. The world largely depends upon South America for the supply of bismuth. Bolivia produced about 500 tons annually, with the mines of Brazil still unexploited. Chile produced over 40,000 tons of copper in 1914, and Peru over 33,000 in the same year.

Brazil possesses the largest known iron ore territory in the world, with a resource of 7,000,000,000 tons, and Chile has an annual output of almost 2,000,000 tons. The same country produced about 2,500,000 tons of niter.

Brazil produced about \$450,000 of gold and silver in 1914, Colombia over \$7,000,000, and Mexico over \$18,000,000 in the same year, which is not in proportion to their large resources.

The almost inexhaustible oil resources of Mexico may be appreciated by the rapid development which this industry has reached in a few years: From 220,000 barrels of oil produced in 1904, the production was over 3,000,000 in 1910, and over 21,000,000 in 1914, with a total output of 90,000,000 barrels from 1904 to 1914. As to other countries, Peru produced 47,000 barrels in 1896; it reached 500,000 in 1906 and over 1,000,000 barrels in 1914, with a total output of 14,000,000 from 1896 to 1914.

Oil is produced in most tropical American countries, and in this connection mention may be made of the enormous resource of asphalt of Venezuela, which is still to be developed.

Some idea as to the agricultural resources, one of the most important sources of wealth of tropical America, may be obtained from the following figures: In 1913 Brazil produced 30,000,000 head of cattle, 7,000,000 horses, 3,000,000 mules and donkeys, 10,000,000 goats, 10,000,000 sheep, and 18,000,000 hogs, with a total of about 80,000,000 head for the year or four head per capita. This branch of agriculture is also developed in other Latin-American countries.

The vast production of coffee by Brazil and tropical America is well known, as upon this the coffee supply of the world largely depends; and the same is true of rubber, etc.

The forest resources of tropical America, and the potential wealth of these countries, may be illustrated by the number of square miles of forest in South America: Argentina has 231,000; Brazil, 1,500,000; Bolivia, 284,000; Chile, 59,000; Colombia, 240,000; Ecuador, 145,000; Guiana, 64,000; Paraguay, 84,000; Peru, 175,000; and Venezuela, 180,000; which makes a total of about 3,000,000 square miles of forest divided as follows: Tropical hardwood, of which cedar is the most important, 1,613,000; Parana pine, 309,000; subtropical hardwood, 259,000; greenheart mora forest, 241,000; mahogany, 84,000; Chilean pine, 96,000; and quebracho, 404,000.

Very little is known concerning the commercial value of these vast forests, but the presence of utilizable woods in tropical forests, in addition to the rare woods, such as mahogany, dyewoods, etc., and the present scarcity of lumber make it very probable that the world may be obliged to depend largely upon the tropical forest for the common timber supply.

The above brief outline of the natural resources of the Tropics, the greater part of which still remains undeveloped, clearly shows the potentiality of wealth of these countries. Taking Brazil, for instance, with an area of 8,524,770 square kilometers, a little more than the area of the United States of America excluding Alaska, it has a population of only one-fifth of that country, or about 20,000,000 inhabitants. This naturally leaves vast areas of undeveloped land the price of which a few years ago varied from 25 cents to \$2 per acre, and the same is true of other tropical countries.

TROPICAL HYGIENE.

Various have been the views advanced from time to time as to the cause of neglect by which for generations the resources of tropical America have remained undeveloped. But why make theoretical speculations when a more simple and logical one is evident, namely unhealthfulness.

That healthfulness is the most potent factor in determining the development of a country or a continent, and that upon it depends the achievement of any enterprise, admits of no doubt. We need only to mention the failure of the French Government to build the Panama Canal, because of the prevalence of disease in that zone, contrasted with the rapid and marvelous accomplishment of the Government of the United States of America after the sanitation of that region.

Healthfulness in fact has determined the development and molded the destiny of the human race and has been the real determining and limiting factor in the building of empires. The diseases common to the Orient were an insurmountable barrier to Alexander and to the Crusaders. Cholera and other diseases of India have been the chief obstacles in the development and settlement of that country by Europeans, and the same is true of sleeping sick-

ness, malaria, etc., of central Africa. For the same reason the Anglo-Saxon and other races of northern Europe have made permanent settlement in North America, as well as the Latin race of southern Europe, of tropical and subtropical America; in other words each race has followed the natural channels of emigration to similar or nearly corresponding surroundings. But above all, if Europe as a whole conquered America and made permanent settlement of this continent, it was because she was armed with the most powerful weapon of offense, the disease she imported, which rapidly spread among the natives with fatal consequences.

Smallpox in 1507 exterminated whole tribes in the West Indies, a few years later depopulated San Domingo and destroyed 3,500,000 people in Mexico (Hirsh), and the same happened in other countries. This was true also of other infectious and bacterial diseases, but the protagonist in this evolutionary tragedy was tubercle bacillus. Most bacterial diseases leave a certain degree of immunity, which is not the case with tuberculosis.

The Caribes of the West Indies are nearly extinct. The Indians of North America are rapidly disappearing, as are also the aborigines of cold and temperate South America. The Indians could not in a few generations undergo such an evolution as to acquire an immunity against tuberculosis which the European has accomplished by natural selection in thousands of years. This clearly shows that diseases and not the sword have been the real deciding factors in the building of empires.

But the era of bacteria as decisive of empires, as admirably described by Reid, is past. The time of discovering new continents and lands, of great conquests, is closing, and diseases have spread all over the world. Bacteriology and parasitology have not only discovered the causes of diseases, but also the means of their prevention. Specific treatments have been discovered even for diseases of still unknown etiology; and hygiene and sanitation in general now constitute an exact science.

Of the common diseases of the Tropics, such as leprosy, dysentery, trypanosomiasis, filariasis, ankylostomiasis, etc., and the most important of all, malaria, the cause, mode of transmission, prevention, and treatment are known. It is a common knowledge that these diseases are prevalent in those countries where hygienic and sanitary conditions are unfavorable. It is known, too, that disease is an insurmountable barrier to the development of the vast resources of tropical America and the progress of the Latin-American countries.

With the instrumentality of modern hygiene and sanitation at our disposal for the prevention and eradication of these diseases, it is beyond any reasonable understanding why the sanitation of the Tropics has not received due attention. The Rockefeller Foundation has done much in that direction, it is true, but much more is needed, namely, the earnest cooperation of the respective governments of those countries. The reason why they have not cooperated is obvious, but is beyond the scope of this article for discussion.

The problem of sanitation of tropical America will be aided to a large extent by the fact that the greater part of the inhabitants of those countries, the Latin-Americans, represent a race admirably adapted to stand the unfavorable climatic conditions of those regions. The people are very healthy by nature and to a large extent immune or resistant against certain diseases, as may be shown by the components of its evolutionary development.

The present inhabitants of the American continent, it is true, represent almost all the races of the world, but roughly, the greater part may be said to consist of the following extractions:

1. The Anglo-Saxons, derived chiefly from England, and northern Europe.
2. The Negroes, imported from Africa.
3. The Latins, derived from Spain, France, Portugal, Italy and some other countries of Southern Europe.
4. The Indians, whatever their origin may have been, whether Asiatic or Phoenician, etc., at the time of the discovery of America, were found to have undergone sufficient evolutionary development to constitute a separate and distinct race, erroneously called Indians because of the belief of Columbus that he had discovered a new route to India and not a new continent, America. The Indians in an exact sense are Americans in the same sense that the Negroes are Africans, or the Europeans, Caucasians.
5. The Latin-Americans, derived from the intermarriage of the Latins with the native Americans, may properly be regarded as a distinct type and as the youngest of the human races, represented at present perhaps by no less than 100,000,000 people of tropical and subtropical America. To regard the Latin-Americans as Europeans or Latins would be as erroneous as to regard them as Americans or Indians, because they really represent an amalgamation of the Latins and Americans in the same sense as the Anglo-Saxons represent an amalgamation.

The anthropological and biological importance in the evolutionary development of the Latin-American race from a medical point of view is that, by having derived from the Latins more or less resistance or natural immunity against tuberculosis and other European diseases, and from the native American more or less resistance or natural immunity against malaria and other tropical diseases, the race has inherited the strong characteristics of the two and consequently is better fitted to stand unfavorable climatic and sanitary conditions. The Latin-Americans therefore by nature are more resistant to diseases in general, a fact which undoubtedly will greatly aid in the sanitation of tropical and subtropical America, where the greater part of this population is found.

Proof of this natural resistance is found in the fact that the Latin-Americans have survived and propagated in the Tropics under unfavorable sanitary conditions, and are likewise adaptable to the life in the cold and temperate regions. In contrast to this we know how susceptible the native Americans still are to tuberculosis when living in association with Europeans, as are the Europeans to the diseases of the Tropics.

But this does not imply that life for the inhabitant of northern regions is an impossibility in the Tropics; not in the least, because this would amount to saying that the Africans can not live in northern climates, which is not the case, as over 10,000,000 of them are in North America alone. The advancement in modern sanitation has rendered the earth safe to live in, whatever region man may choose. What is still lacking is sufficient sanitation and appropriate training and better knowledge among the laity in general concerning the causes of diseases, their modes of transmission and how to prevent them.

It is the neglect of these underlying principles—ignorance, in other words—which is responsible for the sad consequences too often seen and which could easily be avoided among the inhabitants of northern regions who carelessly hazard their future in tropical countries.

In this connection it is of primary importance that those who desire to settle in the Tropics, or undertake some enterprise in those countries, should first receive appropriate instruction in bacteriology, hygiene and sanitation, parasitology and tropical medicine, and also in Spanish or Portuguese.

This instruction may be taken in one or two semesters in any of our universities that offer such courses. The courses should consist of didactic lectures

and demonstration in the laboratory. The student should become proficient in the underlying principles of hygiene and sanitation before receiving a certificate or diploma, and only then should be regarded as a candidate for a position, of whatever kind it may be, in the Tropics.

At the same time the writer believes it is an imperative necessity and of vital importance that the same instruction should be given not only in all universities and colleges, but also in the schools throughout tropical and subtropical America. The respective governments of these countries should awake to present-day requirements by directing their efforts toward the sanitation of the Tropics. "Health first," and only then can the almost inexhaustible resources of the Tropics be developed, and with it the progress and prosperity of tropical and subtropical America and of the Americans as a whole.

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BUSINESS MATHEMATICS.

By CHARLES C. GROVE,

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This statement is to serve the two purposes of assisting colleges to plan an adequate course of instruction in training for foreign trade and the foreign service of the Government and of enabling university men now in the field of business to plan for a systematic reading course relating to business mathematics.

Although the curriculum of the school of business of Columbia University consists of a two-year series of courses based on two years of collegiate study in an approved college, this statement relates to a four-year *collegiate* course in business.

It is further especially desired to make perfectly clear that *education* as distinguished from *training* is in mind. Education is the general development of all the potentialities and powers of a man. It leads him to understand the comparatively few fundamental principles of *rerum natura*, of physics, mechanics, chemistry, economics, etc., and to form fixed habits of clear, independent thinking and intelligent action based on those principles as they recur in most of our everyday problems. Education is general; training is particular. The educational course should put the student in possession of the basic principles of the subjects studied—as, for example, of accounting—so that he, in practice, may readily adapt himself to any form to be followed.

These thoughts have been allowed to intrude because of two observations:

First. There is still too much training not based on a sure foundation of education.

Second. Almost all the expert arbitragists in foreign exchange are of foreign origin and training. It is high time that we raise up in this and other highly specialized departments a generation of American young men with as good education and technical training.

THE SUBJECT MATTER.

For some years the author has been accustomed to speak, loosely and briefly, of *static* and of *kinematic* mathematics in order to bring into bold relief two phases of our mathematical considerations or two points of view of the quantities under consideration. From the first point of view, quantities are at least thought of as of fixed and determined value, with no idea of approximation or variation. From the other viewpoint, quantities are recognized as varying continuously according to a stated law, as in analytic geometry; or variation and approximation are recognized as the rule and not the exception in practical life. The endeavor is then to ascertain the true measure of the quantities or to formulate a law according to which they seem to vary, at least within a limited range. This conception of quantity has led to the introduction of the statistical method into the mathematics of business to a rapidly increasing extent. The topics of the courses are accordingly:

I. STATIC MATHEMATICS.

A. *Advanced arithmetic, logarithms.*

1. Review of methods to develop speed and accuracy in addition, subtraction, multiplication, division, with short cuts that arise from an understanding of the nature of the operations and somewhat of the theory of numbers.

Arithmetical complement and arithmetical supplement.

The object is to bring the student into the atmosphere of number and of numerical relationships, realizing that for the clerical worker such an appreciation is of fundamental importance. Read A treatise on computation, by E. M. Langley, New York; Longmans, Green & Co., 1895.

2. Fractions and their decimal equivalents—terminating, repeating, or circulating—noting the distinction between rational and irrational numbers. Percents of £ s. d., etc.

3. Proportion, simple compound, conjoined (in arbitrage), and even alligation, if desired, simply enough to acquaint the student with it, because of its usefulness in chemistry in “balancing equations,” because it provides an easy solution to some problems that would otherwise involve indeterminate equations, and as it completes the systematic development of the subject of proportion.

4. The method of cancellation.

5. The elements of the theory and use of logarithms. Slide rules. The business man should no longer be afraid of the word logarithm. An extensive treatment, obtainable only in libraries, is in Appendix 12, Ann. Rep., 1896, of U. S. Coast and Geodetic Survey, under the title “Logarithms, their Nature, Computation, and Uses,” by W. W. Duffield, Superintendent. With it are 10 tables.

6. The use and making of other tables, such as—

Interest, simple and compound.

Discount, simple and compound.

Annuity, amount of, present value, to amortize,¹ etc.

Bond tables.¹

¹ This topic is mentioned here for convenience, but the actual use and making of the tables would occur when each is needed.

B. The algebra of discrete quantities.

1. Rational integral functions.
2. Relationships between coefficients and roots.
3. Multiplication and division with detached coefficients.
4. Binomial coefficients—Pascal's triangle.
5. Permutations and combinations, distributions and derangements.
6. Introduction to probabilities.
7. Finite number series.
Progressions, arithmetic and geometric.
Series whose law may be determined.
Introduction to finite differences.
Introduction to interpolation, extrapolation, summation.
8. Undetermined coefficients, applications.
9. Mathematical induction.
10. Infinite series:
Geometric, exponential, logarithmic.
Convergence, divergence, tests.

C. The solution of equations—

- Of any degree, growing out of a study of the theory of equations.
Of quadratic.
Remainder theorem, factor theorem.
Transformations, algebraic and geometric views of.
Descartes's rule of signs.
Rational roots (by synthetic division).
Approximation of irrational roots.

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Hall, H. S. and Knight, S. R. *Selected topics from higher algebra*. New York, London, Macmillan Co., 1908.
Some recent books on the subject are:
Schlauch, W. S. *Commercial algebra*. Book II. Boston, Ginn & Co., 1918.
Skinner, E. B. *College algebra*. New York, Macmillan Co., 1917. Chap. XIV. 263 p.
Young, S. W., and Morgan, F. M. *Elementary mathematical analysis*. New York, Macmillan Co., 1917. 548 p. (Chapters VIII and IX.)

It will be observed that the subject of permutations and combinations has been introduced early. That is for two reasons:

1. The subject above all others enforces, compels correct interpretation, concentration, clear thinking, definite statements. This will lead to the formation of the habits of thought which is the most important object of education to develop.

2. The students, for some years to come, will vary considerably in the kind of preparation for the work of these collegiate schools of business. Mature, experienced men, for whom in part these schools exist, will be in class with young men fresh from the examinations of the College Entrance Board. The subject of permutations and combinations will be new, fresh, interesting to, and within the understanding of, all members of the class alike, and will force upon the consciousness of all the cardinal purpose of the educational course.

The examples and exercises throughout shall be from practical business of to-day. It shall be their object to illustrate and illumine the topic under consideration and to reveal its applicability where that had not been apparent.

The foregoing covers the theoretical preparation for a text like *The Mathematical Theory of Investment*, by Prof. E. B. Skinner (Ginn & Co., 1913), which may be used during the second half of the year.

Among the topics considered near the close of the first half year and in preparation for which the outside reading may be done is that of foreign exchange and trade acceptances, which will rapidly come into general use in both domestic and foreign trade. The following are books that may be assigned for reading and report:

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 ——— The business of finance. New York, E. P. Dutton & Co., 1918. 204 p.
 ——— The meaning of money. New York, E. P. Dutton & Co., 1916. 307 p.
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 ——— and Palgrave, Sir R. H. The English banking system. Washington, D. C., Supt of Documents, 1910.
 The brochures published by many large banking houses as, in New York, by The National City Bank, Guaranty Trust Co., The American Exchange National Bank, and others.

II. KINEMATIC MATHEMATICS.

The ideas of function, change, continuity, and continuous change, of variation and approximation.

The graph of rational integral functions of common and familiar occurrence, of other functions that arise, as cost, interest, annuity, present value, charts for wages, for exchange and arbitrage.

The principles of analytic geometry. The equation of a locus, the locus of an equation, the discussion of an equation.

Plotting functions as $S_n = \frac{a - ar^n}{1 - r}$, $a_n = \frac{1 - (1+i)^{-n}}{i}$, considering in turn two of the quantities as variable and the others as constant or as a parameter.

Developing functions whose graphs shall be of type forms for use later in statistical work.

Elements of analytic geometry in three dimensions.

SECOND YEAR.

Elements of the differential and integral calculus.

Elements of the calculus of finite differences.

The theory of probability.

The method of least squares.

Fitting simpler curves to data.

Statistical measures.

Correlation.

THIRD AND FOURTH YEAR.

The mathematical theory of statistics.

An elective and graduate course—Seminar on Biometrika and present writers.

An advanced mathematical theory of interest and life contingencies.

A graduate course following the Institute of Actuaries' text book. Parts I and II.

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BUSINESS PSYCHOLOGY AND ETHICS.

By JAMES E. LOUGH.

Professor of Experimental Psychology and Method, School of Pedagogy, New York University.

The study of psychology and ethics is rapidly gaining recognition as fundamental or basic work for everyone who is preparing to enter business as a profession. Psychology is the science of the mind, its attributes, limitations, development, springs of action, and control. The psychology of the business man may be a crude "rule of thumb" psychology, based largely upon inaccurate, and frequently prejudiced, observation of a limited group of cases, or derived from popular magazines and Sunday newspapers, or he may possess a knowledge of psychology that has been established upon general laws scientifically developed by means of extended study and investigation.

Business psychology comprises a group of psychological problems that can be applied directly or indirectly to business operations. The fundamental principles are in no way different from the principles of general psychology. Illustrative material, however, comes from the domain of business operations, and emphasis is placed on the somewhat limited group of laws that obviously fall into business operations. In many institutions the course in business psychology is based upon the study of standard or general textbooks of psychology. In such cases the student will find it necessary to make his own applications. He will also find it desirable to touch lightly upon, or to omit altogether, many topics that have a remote bearing on business, as for example, localization of functions, details of sense organs, and space perception.

The introductory course in business psychology should be a general course, that is it should include psychological problems that apply to a wide range of business activities. Following this first course, and based upon it, the student may consider special groups of problems, as for example, the psychology of salesmanship, psychology of advertising, mental rating of employees, vocational guidance and placement, and the psychology of factory management.

The following topics should be included in the first or general course in business psychology:

I. *Self-analysis*.—A study of the mental traits generally called for in business—observation, concentration, memory, imagination, reason, knowledge, ambition, confidence, loyalty, enthusiasm, cheerfulness, reliability, energy, persistence, initiative, self-control. Self-analysis should enable the student to realize which of his traits are strong and dependable and which are weak and undeveloped. He should also be able, as the result of his study, to make a more accurate estimate as to the mental traits of others.

II. *Mental development*.—An analysis of the content and processes involved in each trait mentioned in I, in order to determine methods of strengthening

traits that show undesirable weakness. This applies in the first place to self-development, but also carries with it the methods to be followed in developing these same traits in others.

III. The application of the principles of habit formation to traits, principally to the traits involved in disposition and action, those forming the basis of character.

IV. *Springs of action*.—The natural (instinctive) and the acquired impulses and inhibitions. The origin and development of the instincts, conscious and unconscious imitation, the influence of health, sex, age, race, and social environment in modifying original springs of action and methods of evaluating springs of action, and effect of substitution of motives.

V. *Types of decision and methods of control*.—These should be studied in the first place by special reference to one's self and may then be applied in order to effect decisions in others. In this section should also be included topics on suggestion and obedience.

On completing the topics enumerated above the student should be ready to take up special problems in the psychology of business:

VI. *Psychology of advertising*.

VII. *Psychology of salesmanship*.

VIII. *Psychology of management*.

IX. *Scientific vocational guidance on selection of employees*.

X. *Fatigue and recreation as factors in efficiency*.

XI. *Acquisition of skill*.

XII. *Working with others*.—Cooperation, rivalry, helping and hindering, the development of morale.

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BUSINESS ETHICS.

Business ethics must be founded on the fundamental proposition that the standard of conduct, duties, and obligations, must be maintained in business

transactions as well as in non-business activities. There is no special dispensation of morality for the business world. The great problem in business ethics will be to awaken students to the realization that a single code of ethics must be followed. The topics to be included in the study of business ethics are therefore not different in any essential from the topics treated in any standard course in general ethics. Illustrative material, however, must be drawn from business activities rather than from social life.

The following topics should be included in the course: I. Evolution of morality; II. Origin of social morality; III. The theory of morality; IV. The meaning of duty; V. The consideration of special problems of social and business practice—self-consciousness and altruism, loyalty, patriotism, cooperation, industrial duties, social and industrial alleviation.

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THE STUDY OF BUSINESS ADMINISTRATION AND ORGANIZATION.

In Preparation for Foreign Trade.

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Occasionally the term "business administration" is used in a broad sense to include all the functions of a business. It is then virtually synonymous with the term "business." More frequently, however, it is used to denote the strictly executive functions in the management of business. In discussing the place that a study of administration and organization should occupy in a course of training for foreign trade, the term "business administration" is used in this latter sense.

Business organization is also used in a twofold way. People speak, for instance, of organizing a company and refer then to the steps that must be taken in order to incorporate. Again they speak of their business as being well organized and refer then to the manner in which the functions of their business are facilitated by the disposition of personnel, equipment, and processes. It is in this latter sense that the term "organization" is used here.

The study of business administration and organization in preparation for foreign trade should include a course in the elements of administration and organization with general application to business of any character and a special course in the administration and organization of businesses or departments of such engaged in foreign trade.

It is particularly desirable that the student precede his special study of the administration and organization of businesses engaged in foreign trade by a general course in business administration and organization, because the student is then made to realize that there is no sharp line of demarcation

between foreign and domestic business, but that foreign business differs from domestic mainly in that business is conducted under very different conditions.

The general course in the elements of administration or organization should include a treatment of such factors as the adjustment of the organization and administration to the purposes of the business and the conditions of operation; the delegation of authority, including such factors as departmentization, centralization, and decentralization; the control of delegated authority by means of reports, conferences, and personal relations; the relation of authority to responsibility; functional specialization as it relates to both the delegation of authority and the efficiency of the personnel; the correlation of departments and processes so that the activity of each person or unit contributes effectively to the activity of the whole and so that a balance is maintained; the standardization of materials, equipment, and processes; the utilization and preparation of reports; discipline; employment; training; wage policy, and relation of business to such external agencies as the National Government and State governments, public opinion, competition, etc.

In such a course in the elements of administration and organization the object should be to bring out for the student the significance of these factors in business. It would not be possible, nor would it be desirable, to give him in such a course a detailed knowledge of all these factors. Taking, for instance, the utilization and preparation of reports, it would not be the purpose of the course to train the student in the preparation of complicated reports for which an accounting training is essential. The purpose would be to show the value of such reports in the management of a business and to show how their preparation is controlled by their utilization for administrative purposes.

A considerable amount of illustrative material should be introduced in the course as each factor is taken up for discussion. In part this can be supplied by giving the student detailed descriptions of the organization and the administration of typical businesses. In part it can be accomplished by inspection reports. Neither of these methods is very satisfactory. The laboratory method is the most effective, but it can be used with difficulty and only in a limited way except for advanced students.

The special course in administration and organization as it applies to businesses engaged in foreign trade should comprise a study of the organization and administration of the different business institutions engaged in foreign trade with a view to understanding not only how they are organized and administered but why they must be organized and administered in a special way. It is particularly interesting and instructive to the student to show how the factors discussed in the elements of the business administration and organization are present in foreign as well as domestic business.

The business institutions to be studied will include the export commission house, the export merchant, the export forwarder, the manufacturer's agent, the export departments of businesses selling direct, export branch houses, advertising agencies that place advertising in foreign countries, foreign credit agencies, and trade associations.

It is important that the student taking such a course be acquainted with the marketing, credit and financing functions of an exporting business, because, as previously stated, the organization and administration of a business is in a large measure determined by the functions of a business and the conditions under which it is operated. The course might well be so arranged as to provide for the special treatment of the organization and management of such departments as purchasing, sales, advertising, credits, finance, shipping, invoicing, and accounting.

The courses should preferably be semester courses and should be taken as late in the course of training as practicable.

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ACCOUNTING APPLIED TO FOREIGN TRADE.

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The parties to foreign trade are the importer, the exporter, the transporter, the warehouseman, and the banker. Accounting applied to foreign trade must therefore be considered from the respective points of view of the parties.

The accounting relating to the importing and exporting of merchandise does not differ from other accounting except that it emphasizes the expenses incident to customhouse clearance, warehousing, ocean as well as land transportation, and requires a slight knowledge of foreign exchange.

The accounting relating to transportation and warehousing as industries must be differentiated from that which arises out of the relations between these parties and the importer and exporter, respectively. In no case is the accounting out of the ordinary except that of the ocean transportation company where the company is required to collect from foreign shippers in foreign currency.

The accounting for the banker must take cognizance not only of the usual banking operation but of the somewhat complicated foreign exchange feature.

A university course in "Accounting applied to foreign trade" must needs take into consideration the extent to which "background" courses such as the history of commerce, foreign trade and transportation, and theory of foreign exchange, are available and prerequisite. In the ideal curriculum they would be both available and prerequisite. In the majority of instances in which the

suggestions which follow may be of use, it is probable that such courses will be lacking, hence the course in accounting should lay the foundation in history, economics, and finance, and perhaps take on more of a composite nature than would be usual in the ideal curriculum.

As outlined below, it should be offered two one-hour periods a week for two semesters. Stripped of the material other than that which is strictly accounting, one semester would probably suffice. In either case it should follow the course in general accounting. It should be presented as a combined lecture and laboratory course with liberal assignments of collateral reading.

OUTLINE.

Historical background leading up to the status of the United States prior to the World War. Effect of the World War on the commercial and financial relations of the United States. The Federal Reserve Act as a factor in developing the foreign trade of the United States. Outlook for the future of the foreign trade of the United States. The Webb Act.

The materials of foreign trade. The commodity needs of the United States. Imports for past five years. Foreign markets and opportunities. Exports for past five years. General and special characteristics of export commodities. The question of packing. Warehouse, port, and shipping facilities.

The agencies for the conduct of foreign trade. The exporter, as principal, as agent, the forwarder. The functions, relations, and charges of—the drayman; the warehouseman; the Government in the exercise of supervision and restrictions; the insurer; the ocean transportation company. The documents and shipping papers; bills of lading; consular invoices; shipper's export declaration; invoices of the drayman and the insurance company. The importer and his relation to the ocean transportation company; to the customs department of the Government; to the customhouse broker; the warehouseman; the local transportation company. The documents for imports; incoming bills of lading; customhouse entry blank; declaration; duty deposit; appraiser's report; release; duty adjustment; marine insurance; inward freight; and cartage.

Expenses characteristic of the exporter: Outward cartage (depository to the steamship pier); consular invoicees; ocean freight; marine insurance; warehouse charges; forwarder's commission. Characteristic expenses of the importer: Ocean freight and marine insurance (usually included in purchase invoice); customhouse broker; duty; inward cartage.

Principle of the draft. Two-party drafts. Three-party drafts. Bookkeeping for drafts. The trade acceptance.

Specimen transactions illustrating purchases and sales of merchandise with importing and exporting expenses; drawbacks; packing costs and their relation to claims for goods damaged in transit; owned goods and consigned goods; goods sold on open account; draft; trade acceptance; conversion of invoices from English, French, German, Dutch, and South American currencies to United States currency. Statements of facts and problems correlating the above and introducing statements requiring conversion to and from branch offices and foreign agencies. Standard rates for conversion of accounts current. Incidental profit on exchange.

Theory of foreign exchange. Function of the foreign-exchange banker; exchange parities; conversions. International banking. Sources of exchange. Demands for exchange. The gold points. Expenses incident to the shipment of gold. The various kinds of exchange; bankers' long bills, short bills, cable transfers, commercial clean long, clean short, documentary long, documentary short, documents on acceptance, documents on payment.

The foreign-exchange department; organization, function, records, relation to general organization of the bank. The foreign-exchange controlling account in the general books.

Operation of the books of the foreign-exchange department. The foreign-exchange ledger, with supporting books. Long and short bills purchased. Long and short bills sold. Bank acceptances. Trade acceptances. Letters of credit. Travelers' checks. Foreign money bought and sold. Arbitrage transactions. Reconciliation of foreign bank accounts, showing profit in each account. Statement of profit and loss for foreign-exchange department.

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. STATISTICS AS APPLIED TO BUSINESS.

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Whatever motives may prompt one to enter business, the pecuniary one is undoubtedly potent. Business success is measured in terms of realized profits;

and to determine these accurate accounting is necessary. Accounting and statistics may be said to be the universal languages of business. Accounting, as a business tool, has been developed during the last dozen years and is now being used to determine costs in all their different phases. Statistics, as a method in business and as a companion to accounting, has had even a more recent but no less important development. Both have grown in spite of business distrusts and lethargy. The prejudice against statistics is to be sought more in their abuse than in their use, and this fact the business man is coming to see. No longer can business be conducted successfully by a rule-of-thumb method nor accounts and statistics be ignored. Markets must be analyzed and production costs scrutinized. The facts of industry must be used as a basis for the determination of business policy.

Statistics in business may be used in the solution of two types of problems—first, those associated with internal, and, second, those associated with external conditions. Internal problems of production, of the supply and control of labor, of organization, etc., lend themselves to statistical treatment. In the same way problems beyond the sphere of individual businesses due to competition, relationship with the State, may also be studied and measured statistically. It is probably this latter side of business to which may be traced the increased use of statistics as a means of forestalling the consequences of keen competition and of measuring the results of State activity upon business.

What are statistics? Statistics may be defined, briefly, as numerical aggregates, enumerated or estimated according to reasonable standards of accuracy, collected in a systematic manner for a predetermined purpose, and placed in relationship to each other. Statistical methods may be defined so as to include all methods of analysis and synthesis by means of which statistics may be collected and used to describe or explain phenomena in their individual or related capacities. The goal of statistical studies is comparison, and this may relate to time, to place, and to condition.

The business man desires to compare his business with that of his competitor; to compare this year's operation with last year's; to compare one department with another, etc. To do so by means of statistics necessitates the use of aggregates or numerical facts in terms of standardized units of measurement. Imperfect measurements and crude units will not suffice. The unit of measurement in business, as in all science, is fundamental. In the physical sciences it is definite and standardized. In the business world, however, units are far less definite and their meaning dependent upon the purpose for which they are used. Comparisons are valid or invalid largely in proportion to the degree of accuracy and homogeneity which characterizes the units employed.

The statistical methods most commonly used by business men are tabulation and graphics. Tabulation serves the purpose of putting in lines and columns, under stub and caption headings, data classified according to relationships which are significant for the purpose in mind. Tabulation grows out of analysis and registers the relations between facts which are thought to be significant. Tables may be simple or complex, depending upon the amount of data which they contain and the complexity of the relations which they register. As a statistical device for classifying business facts, they are fundamental, but their appearance and complexity are oftentimes forbidding.

Graphics, on the other hand, at once arrest attention. They may be divided into two main groups—diagrams, in which lines, surfaces, and volumes are employed; and graphics proper, which consist of graphs and curves. Graphic devices are valuable because of their appeal to the eye. It is their power of suggestion which is important and, at the same time, dangerous. A diagram

drawn out of scale, or a graph dissociated from the concrete data which it depicts, may be highly deceptive. Both may illustrate faulty data and in themselves never reveal the fact. Graphics rarely add new meaning to statistical facts. What they do is to throw into bold outline relationships which may lie concealed in tables. Their appeal is to the eye and not necessarily to the intellect, and they should be used with caution and circumspection. In business, where data are accurate and the desire to deceive lacking, graphic devices may be successfully employed, not only to give to executives and others vivid impressions of operating efficiency in the past but likewise to suggest or to forecast the future. Graphic devices are almost of infinite variety and may be used in almost all of the different phases of business activity. It is to be remembered, however, that they are secondary to the analysis which is required for the preparation of the material which is to be illustrated.

An example of the use to which statistical methods in business are put may be helpful. The business man is constantly in need of a barometer and forecaster of trade conditions. If he can know what the future will bring, if he can gauge his productive activity in line with industrial and financial conditions, his business will be stabilized and his methods made more profitable. He is therefore seeking to interpret the meaning of statistical facts growing out of trade relations, banking and finance, manufacturing conditions, stock and bond transactions, etc. In response to his needs, certain organizations have prepared and are marketing so-called "statistical services," the aim of which is to interpret fundamental business and industrial statistics. Until recently, little if any science has characterized such services.

Within the last two years, however, both a business barometer and a business forecaster have been worked out on scientific principles. The method of correlation, developed by Sir Francis Galton and perfected by Karl Pearson, has definitely been adapted to business data. To-day, not only is this method used by statisticians in the interpretation of business facts but also by psychologists in choosing and grading men, by agriculturalists in selecting farm products and farm animals, by breeders and others in improving animal stock in this and other countries. Probably no more promising field of statistical inquiry, so far as the interests of the business man are concerned, has been developed in the last decade than the application of the method of correlation to the development of business barometers.

Business, to be successful, must be scientific. Business men are coming keenly to realize this fact. A scientific tool which is available and may be of inestimable service toward the development of business, as a science, is the method of statistics.

Statistical studies should come relatively late in the student's work, since they are technical, presuppose a knowledge of business conditions, and for their successful perusal, require a certain degree of intellectual maturity. At least one-half year of four to five hours a week is necessary for an introductory course. A large portion of this time should be devoted to laboratory problems illustrative of the principles discussed in the text. It is well to duplicate in this part of the course, so far as can be done, actual statistical work.

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FOREIGN TRADE AND TARIFFS.

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A course of study looking to preparation on these subjects is best carried on in connection with a general college course, that course being arranged with a view to giving not only a general education, but special training and information on the particular subjects here mentioned.

It is not advisable to prescribe or recommend a rigid schedule or to indicate in detail at what stage and with what degree of intensive application individual topics are to be taken up. There should be training in such general fields as natural science, philosophy, literature, and especially English. In the field of natural science, chemistry is the most important subject. The main elements of a general education should not be neglected.

The subjects which relate more particularly to foreign trade and tariffs are: Modern languages, especially French, Spanish, German; Government (political science and international law); the principles of economics; commercial geography, commercial arithmetic, and economic history; money and banking, transportation, corporate organization and combinations, and like subjects in applied economics; the theory and practice of statistics; international trade; tariffs and tariff history; foreign exchange.

In general, the order in which these subjects may be profitably taken up is as follows:

1. Modern languages should be begun early, if possible, in preparatory schools, and should be studied to the point where an easy command of reading is acquired. It is desirable also to attain command of the spoken language, but this is not indispensable. Not all of the languages mentioned need be taken up. It is better to have real command of one than an ineffective smattering of two or three. The study of a language should ordinarily be continued through at least two years, and command of it tested and bettered by its use in the study of political and economic subjects.

2. Both government and economics should also be taken up early. If a complete college course of four years is planned, it is well to begin with government in the first year and follow with the principles of economics in the second year. There is no reason, however, against taking up both government and economics in the first year, provided that in that year, or in the subsequent years, there is not complete neglect of the other constituents of a liberal education. Commercial arithmetic may also be taken up in the first year.

3. After a year of economics and government a further study of more specialized topics should be undertaken. Among the topics of special importance in economics are commercial geography; economic history, and especially the economic history of modern times; transportation; money and bank-

ing; corporate organization and corporate finance, including combinations and public utilities. It is not necessary to take up each and every one of these subjects. A selection among them may be made. Commercial geography and economic history should, however, not be omitted.

The special subjects to which the preceding preparation leads, namely, the theory of international trade, tariff history and experience, and foreign exchange, need not necessarily be postponed to the last year or final stages. Nor need they be necessarily taken up as separate topics. They may be combined, in the third or fourth year of the college course, with some of the preceding subjects. Reciprocity treaties and international commercial relations may be undertaken in connection with tariff history. International trade, and tariff history and experience, may be combined in one course; or international trade and foreign exchange may be combined in one course. The combination and interrelation of the subjects must depend upon the facilities at the disposal of instructors and students. In the latter part of the course, at the same time with these economic subjects, it is desirable to undertake also a study of international law and international treaties, with special reference to commercial treaties.

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TRANSPORTATION AND SHIPPING IN THEIR RELATION TO FOREIGN TRADE.

By GROVER G. HUEBNER,

Professor of Transportation and Commerce, University of Pennsylvania.

The first year of a four-year college course designed for students seeking preparation for the foreign trade need not contain any course dealing directly with transportation and shipping. To obtain the basis for specialized study later in his course, the first-year student can be profitably occupied with courses on the following subjects: Elementary economics, commercial geography, business law, government, accounting, and English.

In his second year the student can advantageously take the course in *railroad transportation* as many ocean cargoes need to be handled between ports and interior points by rail or rail-water routes. A course given two hours per week throughout the college year or three hours for one term may include the following topics: Origin and growth of the American railway system; the mechanism of a railroad; railroad capital; earnings and expenses; the freight service; the passenger, express, and mail services; the organization of the service; railroad statistics; interrailway relations; theory and practice of railway charges; and regulation in leading foreign countries.

Definite results may be obtained by adopting a good textbook and supplementing it with additional reading assignments and with lectures and class discussions.

If his roster permits, the second-year student may also be given his course in *ocean transportation and shipping*. It is desirable, however, that he be given instruction in the following subjects during the second year: Money and credit, manufacturing industries, advertising, marketing methods in the leading agricultural and manufacturing trades, additional English, and a foreign language.

During the third year the foreign trade student will, unless he has done so during the second year, take a course in *ocean transportation and shipping*. A two-hour per week course extending throughout the college year or a three-hour course for one term makes it possible to include a study of the following topics: Development and classification of sailing vessels, steamers, motor vessels, and unrigged craft; ocean routes; the Suez, Panama, and other maritime canals; the measurement of vessels and traffic; the business organization of steamship lines; ocean ports and terminals; the ocean freight service; passenger, mail, and international express services; marine insurance; relations between ocean carriers; relations between ocean and rail carriers; principles and practice of ocean freight rate making; aid by the Federal Government; navigation laws; Federal regulation of charges and services; aid and regulation by States and municipalities; freight and terminal charges; condition of the American shipbuilding industry and of the American marine; Government aid in foreign countries; and the merchant marine policy of the United States.

As in the case of railroad transportation, a textbook is advisable as a basis for study. In addition there may be special reading assignments, lectures, and class discussions; and copies of the various ocean shipping forms should be provided so that the student may become familiar with them.

Either in the third or fourth year the student may profitably take a two-hour per week course in *railroad traffic and rates* so that he may obtain more detailed knowledge of freight rates and other charges; methods of rate making; rate structures; tariffs; classifications; routing; railway shipping regulations and freight services; and public regulation of railroads.

It does not seem necessary that the student of foreign trade need take more than the three transportation courses mentioned. His study of transportation and shipping in the third and fourth years correlates well with his courses in foreign trade methods; history of foreign commerce; industrial management; banking; corporation finance; salesmanship; international law; diplomatic and consular procedure; stock and produce exchange markets; marine insurance; foreign languages; history; political science; economics; and special courses dealing with the resources and trade relations of Latin America, Europe, Australasia, Africa, and the Far East.

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PORT AND TERMINAL FACILITIES.

By ROY S. MACELWEE.

Dean, School of Foreign Service, Georgetown University.

An understanding of the essentials of transportation, which is a large item in the cost of production, is even more necessary in foreign trade than in domestic trade. The question of transportation costs involves both operation and routing. In domestic commerce routing is primarily a matter of railroad rates. Every large concern should have its trained traffic manager to take care of this important item of costs. The need is more urgent in foreign trade as the costs are larger, the time element in deliveries of greater variation, and the quality of service to the foreign customer may fluctuate between greater extremes than in domestic business. Routing calls for a minute knowledge of the highroads of the world's commerce, as distance is a matter of transportation facilities and not of miles.

There are three links in transportation overseas: (1) Railway inland navigation and other land carriers at home and abroad, (2) ships on the seven seas, and (3) the link between land and water carriers, which is the port. The first two have been taught thoroughly and well as part of the higher education for business, but the port and terminal problem, which is at present the most urgent, the most neglected and the least understood of the trilogy, has received only casual consideration. The study of ports and terminals must be *par inter parem* with land and water transportation in any well-ordered curriculum.

The course in ports and terminal facilities was first given in an American university at the school of business of Columbia University, winter semester of 1917-18. As the course developed it became increasingly an analysis of efficiency methods in port design and operation, with examples drawn from the leading

ports of the world as illustrations of the principles involved. These illustrations required a wide survey of the world's ports, which should give the future export merchant direct information. In particular the study in the course shows the merchant what is essential and how to go about further independent study. Many institutions are now (1922) giving entire or part-semester courses in the subject, notably Georgetown University School of Foreign Service registers 100 students in the courses upon ports and ocean transportation, and presents a 10 semester one full-year curriculum for training for the steamship business.

The course also sought to show engineers the business requirements and economic background of a port. The trouble in the past too often has been that able engineers have constructed wonderful harbor works which have not been an effective tool of commerce, not because of any lack of engineering efficiency but because of some subtle and elusive economic force.

It was evident that the time was not sufficient to cover the ground and a large amount of important material was not touched. However, it would seem more advisable to condense the material rather than to extend the course over two semesters. Also that the two courses on ports and shipping should each be of one semester given early in the curriculum for upper classmen, with a subsequent seminar of more serious study and investigation for graduate students. There is an almost untouched field for investigation and research affording suitable material in abundance for masters' and doctors' dissertations. But more important, from the larger standpoint, much serious work must be done within the next few years as our country needs just this kind of exact scientific knowledge to help solve the foreign trade and shipping problems which are so vital to its future welfare. A transportation seminar may well be under the joint supervision and leadership of two or three teachers. This would not exclude intensive special work by small groups with each teacher.

The question of textbooks is a difficult one. In the field of water transportation there are several excellent works. In particular, *Principles of Ocean Transportation*, by Johnson and Huebner, has recently appeared from Appleton & Co., New York. In the case of ports there are, however, some very good monographs for collateral reading. The most important are Prof. Edwin J. Clapp's "The Port of Boston," "The Port of Hamburg," and "The Navigable Rhine." All are published by the Yale University Press. There are several good works of the monograph type in German and French. Much more serious works on ports have been written abroad than with us, except for Prof. Clapp. The great mass of material on the subject is buried in reports and isolated articles. All these publications, with the exception of "The Port of Boston," have very little to do with the philosophy of ports in general, being more an interrogation of facts as regards some particular port. Mr. W. J. Barney, C. E., secretary of the American Association of Port Authorities, 110 West Fortieth Street, New York City, has recently compiled a bibliography of pamphlets and articles which is quite thorough, so far as works in the English language are concerned.¹ The bibliography is well ordered and grouped and should be a good guide for further study by serious students. Miss Hasse, of the economics room, New York Public Library, is collecting a reference library on ports. The publication of the Columbia lectures, mentioned above, affords a text for future study, but at best it can be only a fingerboard pointing the way to greater concentration on the subject by many inquiring minds.²

¹ Selected bibliography on ports and harbors and their administration, laws, finances, equipment, and engineering. New York, W. J. Barney. 1916.

² Ports and terminal facilities, with bibliography. By Roy S. MacElwee. New York, McGraw-Hill Book Co. 1918.

COURSES IN COLUMBIA UNIVERSITY.

The threefold treatment suggested in the preceding paper on Ports and terminal facilities is described in detail in the three following courses,¹ namely, "Ports and terminal facilities," "Theory and practice of ocean transportation," and "Railway traffic and rates," offered in the extension division of Columbia University.

PORTS AND TERMINAL FACILITIES.

The object of the course is to lay down firmly the principles underlying the work which a port must perform as a coordinated and assembled piece of machinery to further our growing foreign trade.

A general introduction will show the types of seaports as to location and layout, with some historical reasons for the same and the dependence of a port upon its hinterland.

Miscellaneous package freight. The wharf, transit sheds, and movement by rail to the interior. Freight differentials in connection with port development. Marginal railroads, classification yards, handling c. l. and l. c. l. lots. Packages for local consumption. Trucking. The warehouse construction and physical connection. Cold storage and terminal markets for perishable food products. Inner harbor movement by lighter. Manufacturing plants, the industrial harbor, and the question of upland *v.* waterfront property. Movement into the interior by water. Barge terminals, mooring dolphins "in midstream." The river port and the river-port industrial harbor. Handling of specialized and bulk freight from ocean to river vessel or railroad. Four classes of passengers with their luggage. A waterfront may also be a place of beauty. Port administration and jurisdiction with particular reference to several successful port authorities. Fiscal aspects, fees, and dues. The free port as an institution. A brief review of American and foreign ports with their commercial bearing in the routing of exports.

THEORY AND PRACTICE OF OCEAN TRANSPORTATION.

I. *Initial problem.*—An exporter has various lots of merchandise which he wants to ship; 12 cases of gasoline engines for Liverpool, 1 case of parts for London, 10,000 barrels of petroleum for Bordeaux, an ambulance for Havre, a large consignment of rails, cars, and locomotives for Vladivostok. How will he go about it? He may do it himself, or turn it over to a forwarder. There are liners, tramps, private carriers, special service steamers; shipping papers and routine; shipping terminology; how ocean freight rates are made; ship brokers and agents; British coal exports and freight rates; ocean highways and routing; marine insurance and bottomry.

II. *Second problem.*—The export house decides to enter the shipping business and (1) to build and (2) operate its own ships.

1. Correlation of size, speed, economy of operation, and required service; types of special duty ships; shipbuilding and costs of construction; elementary principles of shipbuilding; standardized ships and ships built in series; growth of shipbuilding and present problems reviewed to forecast the future; oil age.

2. Operating problems and costs under American and foreign registry; history of American marine legislation; Government aids to shipping: Subsidies, mail payments, preferential duties, freight rebates.

III. *The Liner.*—Growth of the North Atlantic Ferry and the great ship lines; pools and combines; aids to navigation, lighthouses, life-saving, safety at sea; line service from American ports; railroad lines and "feeder" lines; reciprocal influence of labor migrations, shipbuilding, and ship lines; shipping conditions and outlook.

¹ From information circulars issued by Columbia University.

RAILWAY TRAFFIC AND RATES.

This course is designed to meet the needs of traffic men employed either by railroad companies or by industrial establishments which receive or send out products by rail.

A description of the present railway system of the United States, an analysis of its work, and a study of the business organization of a railroad corporation will indicate the nature and extent of the railway service and the character of the machinery developed to perform it. A study of the functions and duties of an industrial traffic department will show the nature of the organization developed to purchase the services of the railroads and to represent the shippers in their ordinary business relations with the carriers.

The most important part of contact between railroad and shipper is the transportation rate. The first step in rate making is classification. The general principles of classification will be discussed and an explanation given for the necessity of applying special or commodity rates instead of class rates to many articles of traffic. Each of the three leading classifications of the United States will be analyzed, particular attention being given to the special rules and regulations of each. Problems of classification will be presented for outside investigation and class discussion.

The rules of the Interstate Commerce Commission for the publication and filing of tariffs, as given in Tariff Circular 18-A, will be fully discussed, and the construction of local tariffs, interline tariffs, and agency tariffs will be described.

Because of peculiar conditions of topography or of economic development, varying types of rate structures have come into existence in different sections of the United States. The chief feature of the rate systems of the eastern, southern, and western territories will be explained, and consideration given to the modifications brought about by the rulings of the Interstate Commerce Commission under the "long-and-short-haul" clause of the Mann-Elkins Act of 1910.

The use of freight shipping papers, such as the bill of lading, the arrival notice, the freight bill, the delivery receipt, and the waybill will be studied, and instruction given concerning the preparation of these various papers.

Special problems of freight transportation, such as car service and demurrage and freight claims will receive attention; a thorough study of the conference rulings of the Interstate Commerce Commission will be required.

Some time will be devoted to a study of the passenger, mail, and express business of the railways, and a comparison made of the rates and services afforded by the express and the parcel post.

The last part of the year will be given to the consideration of the present methods of the regulation of railroads by State governments and by the Federal Government. The reading of the act to regulate commerce will be required, and a careful analysis made of its provisions. An estimate of the effectiveness and adequacy of the present system of regulation will be presented and an attempt made to indicate what changes in the present methods of regulations are desirable.

MONEY AND CREDIT—BANKING—BANKING ORGANIZATION AND PRACTICE.

By CHAUNCEY RAY PORTER,

Secretary School of Commerce, Accounts and Finance, New York University.

The following outlines, with suggested texts and supplementary readings, refer to four courses which are considered essential in any thorough prepara-

tion for foreign trade. In making up these outlines it is assumed that the college offering the training would have a fairly well-developed curriculum in business subjects, if not a separately organized school of commerce. It is assumed also that the students will have had at least a year of elementary economics before beginning these courses.

If the curriculum of any particular college is so arranged that most of the freshman and sophomore years are made up of so-called cultural subjects, it might not be advisable to spend as much time on the money and banking courses as is indicated here as being ideal. In such a case it would be possible to telescope the courses in money and credit and theory and history of banking into a one-term course of three or four hours a week. If this were done it might be better to use some book like Holdsworth's *Money and Banking* as a text, because this will give to the student under one set of covers a fairly comprehensive treatment of both subjects.

Banking practice and foreign exchange could be telescoped in the same way if this is necessary, but there is no one book which can be used for both courses.

MONEY AND CREDIT.

(Three hours a week, fall term, sophomore or junior year.)

Relation between money and credit; circumstances affecting the value of money and credit; index numbers; the rate of interest; effect of changes in money supply and value upon the rate of interest; types of money and monetary systems; monetary history of the United States.

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 United States. Department of the Treasury. Bureau of the Mint. *Report of the director*.
 ——— Circular no. 52. See also under Theory and History of Banking.

THEORY AND HISTORY OF BANKING.

(Three hours a week, spring term, sophomore or junior year.)

Classes of banks; operations of a commercial bank; the bank statement; loans and discounts; relation between the bank and the borrower; bank notes; deposits and checks; the clearing house; domestic exchange; bank organization and administration; banks and the Government; American banking before the Civil War; European banking systems; the Canadian banking system; banking in South America and the Orient; the national banking system; banking reform in the United States; the Federal Reserve System; State banks and trust companies.

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- Kinley, David. The independent treasury. Washington, D. C., Government Printing Office, 1916. 370 p.
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BANKING PRACTICE.

(Three hours a week, fall term, junior or senior year.)

Opening an account; deposits; deposit record; paying checks; bank loans; collateral loans; real estate loans; establishing credit; bank accounting; depositors' accounts; the transit department; duties of officers.

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- See also Instructions relative to State banking issued by various State bank superintendents.

FOREIGN EXCHANGE.

(Three hours a week, spring term, junior or senior year.)

Monetary systems of the world; rates of exchange; foreign remittances; bills of exchange; work of the exchange box; financing of exports; financing of imports; finance bills; arbitrage; gold shipments; exchange and the rates of interest; exchange and the securities market; sterling exchange; French exchange; German exchange; exchange with other countries.

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INTERNATIONAL BANKING AND FOREIGN EXCHANGE.

By IRA B. CROSS,

Professor of Economics, University of California.

In many universities the study of international banking and foreign exchange is made part of a general introductory course in money and banking, while in others where the subjects of money and banking are treated in separate courses it is discussed in the course in banking. Comparatively few institutions devote a semester solely to its consideration. The importance of the subject of foreign exchange was early recognized at the University of California, where almost 20 years ago Dr. Carl C. Plehn added it to the curriculum of the economics department of that institution. In the last few years other universities have done likewise.

My experience leads me to believe that international banking and foreign exchange should be given as a separate three-unit one-semester course and should follow the elementary work in money and banking. As the curriculum of an economics department is usually outlined, the beginning course in economics is given in the sophomore year. Students desiring to specialize in the field under discussion should therefore take the introductory work in money and banking during the first semester of their junior year, following it with the study of international banking and foreign exchange in the second semester.

The lectures and discussion should be based upon a textbook, of which we are having an increasingly large number published each year. An opportunity should be constantly afforded the class to ask questions, because the practices of foreign exchange are always difficult for beginners to understand. Exercises and problems should be assigned from time to time, so as to acquaint the students with the banking forms used, the different types of foreign exchange documents employed, and the methods followed in figuring the buying and selling rates of the various kinds of exchange.

As to the content of the course, it has been found advisable to begin instruction by devoting about two weeks to a discussion of domestic exchange. Students more easily grasp the principles underlying exchange transactions when the money of only one country is involved. This part of the course may well cover the following matters: The definition of domestic exchange; the agencies used in the settlement of accounts between merchants and others in different parts of the United States, such as bank drafts, money orders, acceptances (bank and trade), letters of credit, etc., and the advantages and disadvantages of each; methods of protest; indorsements; liability of drawer, drawee, and indorsers; and factors affecting rates of domestic exchange.

Then passing to a discussion of international banking and foreign exchange, the course readily proceeds along the following lines: The definition of foreign exchange; foreign exchange in theory; classes of bills of exchange and how they are used, such as, clean and documentary bills, drafts drawn against securities, bankers' demand drafts, bankers' long bills, letters of credit, travelers' cheques, express and postal money orders, cables, etc.; characteristics of the foreign exchange market, dealers, international banking relations, etc.; rates of exchange,

par of exchange, methods of quoting exchange rates on various countries, factors making for fluctuations in rates; the gold movement, cause for export and import for gold, and the mechanism employed; how money is made in foreign exchange transactions; effect of the World War on the exchange market, and finally exercises and discussion of practices arising in connection with the actual buying and selling of exchange, conversion, expected rates of profits, etc.

A term paper involving a careful and detailed study of the foreign exchange relations of a particular country is of very real assistance to the student by enabling him to see more clearly how the principles discussed throughout the course apply in actual practice.

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INVESTMENTS—STOCK AND PRODUCE EXCHANGE—COMMISSION AND BROKERAGE PRACTICE.

By HENRY RAND HATFIELD,

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The study of investments has but recently found a recognized place in the curriculum of the commercial course. Considerable literature has appeared, but much of it makes no attempt at scientific treatment and is little more than meretricious advice as to how one can make a successful turn in the stock market. Even the more scientific and scholarly works, for the most part, discuss only American markets and conditions, and have only an indirect bearing on the problems of foreign trade. Thus, the standard text on investments, used by business houses, as well as by colleges, makes no reference whatever to foreign securities and markets, and one might infer from its perusal that bonds were issued by no Government other than that of the United States. But the war has done away with our isolation. Particularly in a course designed to

train for foreign trade, foreign as well as domestic investments must be considered. This is true, not so much because dealing in foreign investments is in itself a form of international trade, as because the transfer of investment securities is one of the most obvious means of paying for imports. In the past this has been true to a minor degree. It has been a striking phenomenon during the recent war; it will probably be continuously important in future trade between America and Europe. Already the changed attitude has been typified by a series of articles published by the American Association of Social and Political Science under the title "America's changing investment market."

The course on investments should include the following matters: The form and characteristics of various types of investments; the basis of security in investments; and elements of investment value. The student should examine specific securities, making such investigations as are properly made by the investment dealer before undertaking to handle an issue. Such matters are recognized as a part of any course on investments. A course bearing on foreign trade should emphasize also the broader aspects of the investment market, such, for instance, as are brought out in C. K. Hobson's "The export of capital," and J. A. Hobson's "An economic interpretation of investment." Attention should also be given to the great financial movements so admirably treated in Mitchell's "Economic cycles." Caution must be taken lest the study of price movements degenerate, as in so many popular treatises, into a mere attempt to forecast profitable speculations on a margin.

The course in investments should follow courses in the principles of economics, accounting, statistical methods, and the mathematical principles involved in the calculation of net yield. This last-named subject is sometimes included in the course in investments. Preferably it should be given in a preliminary mathematical course being most conveniently handled in connection with the allied topics of annuities, depreciation, sinking funds, etc. A general survey of corporation finance is also preferably given as a prerequisite to, rather than as a part of, the course in investments.

Stock exchanges are necessarily considered in connection with the study of investments. The closely allied activities of produce exchanges have been more neglected in the college curriculum, although they are perhaps far more significant in relation to foreign trade. Foreign schools have given much more attention to the details of such organized markets than have the schools in this country. This is doubtless justified by the fact that in Europe the colleges of commerce have been preeminently training schools for foreign trade, while in America, foreign trade having been relatively insignificant, interest centered on the home market. But now, when training for foreign trade is imperative, the schools of Belgium and France may well serve as models. The Institut Supérieur de Commerce, of Antwerp, founded in 1852, is one of the most successful as well as one of the oldest of such schools. Students in the third year are given a course dealing with the exchanges of London, Paris, Brussels, Antwerp, Amsterdam, Berlin, and New York. In addition attention is paid to the general markets of Egypt, Canada, South America, China, Java, Straits Settlements, and Ceylon. About one-fourth of the Belgians who have graduated from the Antwerp school are located in England, South America, Singapore, India, Tunis, Congo Free State, Japan, China, and Cuba. In addition to these, a very large number are located in other countries in continental Europe. With such an array of trained commercial emissaries, it is not surprising that Belgian foreign trade is so highly developed. No such program is attempted in American schools. If the United States is at all to rival Belgium in its relative standing in the world markets, it is necessary to furnish instruction in the organization, forms, and procedure of foreign markets.

The technic of the organized markets—commissions, brokerage, etc.—is a matter which must be dealt with in connection with the study of the stock, produce, and other exchanges. This has generally been but lightly touched upon in American colleges, save as it relates to American practice. While the student preparing for foreign trade should not be encumbered with a mass of details which he can neither remember nor use, he should be informed as to the main features of trade customs in foreign countries, and should know where to look for supplementary details. Unfortunately, on these subjects there is a paucity of good treatises in the English language, and a still greater lack in those especially adapted to American students.

The subjects touched on above are best studied in the last year of the course in commerce. They require considerable background, and some specific preliminary training, as, for instance, that in mathematics. Not less than three hours a week throughout a year should be allowed for these subjects. This time should be exclusive of that devoted to cognate subjects such as banking, foreign exchange, etc., which may form separate courses and are elsewhere considered in this report.

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COMPARATIVE FINANCE AND TAXATION.

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The subject matter of Government finance, now one of the well standardized courses of study in the curricula of most American colleges and universities, may be indicated briefly as follows:

I. Government expenditures: The difference between public and private expenditures; economy, regularity, and purpose in expenditures; the growth and significance of the expenditures of central and local governments in modern times.

II. Government revenues: (a) Revenues from public lands, the post office, and public industries; the conditions under which governments should engage in industrial undertakings; (b) fees, special assessments, and taxes as sources of revenue; the canons of taxation; the meaning of "equitable" taxation; proportional, progressive, and regressive rates; (c) the forms and incidence of taxation—property, income, inheritance, customs, excise, corporation, capitulation, business and license taxes; the relative importance of these taxes in the fiscal systems of leading nations; problems of administration; (d) the value of current proposals for reform in the tax system and in the administration of tax laws; the single tax; the proper balancing of Federal, State, and local revenue systems in the United States.

III. Government debts (a source of *revenue* to be justified by the character of the *expenditure* contemplated): The history of national debts as to character, purpose, amount, and administration; industrial loans, deficiency loans, and war loans; bonds versus taxes in war finance; conversion and sinking funds; State and local indebtedness; restrictions on borrowing power.

There is an intimate relation between the study of Government finance and the general field of economics. The former is concerned primarily with public revenues, expenditures, and their administration; the latter may be defined as the study of the desires, efforts, and rewards of human beings engaged in the business of making a living or, more briefly, as the social science of wealth. Where economic science has to do with the wealth-getting and wealth-using activities of men as members of society, Government finance deals specifically with the economic relation of organized society to its individual members. And that relation is not to be ignored. When, by common consent, a government assumes the responsibility of operating a railroad, a postal service, a water plant (municipal finance), or of protecting its citizens, it is satisfying human desires in a field where private enterprise presumably has failed or is incompetent. It is the central authority to which certain responsibilities have been assigned so that they may be assumed for the benefit of all rather than for the benefit of a few. Again, the financial policy of a government may determine the channels of human effort in production, as when taxes are levied on the importation of foreign goods for the purpose of stimulating their production within the country. A government may indeed impose such onerous taxes on its citizens as to penalize materially their productive efforts. Finally, taxes are paid by individuals solely from the product of human industry, that is, from the shares of private income known as rent, interest, wages, and profits. These are the rewards men receive for their efforts, and out of these rewards a government extracts most of its revenue. If a tax system is carelessly devised, it will mean injustice and hardship to some while others will profit by escaping their share of the tax burden. In order to pass an authoritative judgment upon the justice or injustice of a particular tax or tax system with a view to preventing gross inequalities among taxpayers, one must have a firm grasp on the theory and principles of economic science.

Government finance is thus a part of the science of economics, which in turn is but a part of the study of man. In a college curriculum the subject may be conveniently offered as a semester or full year's course of three hours a week to properly qualified juniors and seniors, that is, to those who have completed an introductory course in the principles and problems of economics. For those students who are seeking a general training in economics, a half-year course is probably sufficient. Those who expect to engage in public service should pursue the subject much further than is possible in one semester.

As a preparation for citizenship, public service, or commercial life, a knowledge of Government finance is fundamental. Taxation touches the economic life of every breadwinner, directly or indirectly, justly or unjustly; it is at all times a factor affecting the satisfaction of human desires, the expenditure of human effort, and the distribution of wealth; and it is a powerful weapon when used as a means of effecting social or economic reforms. Now that the World War has thrust upon governments greater financial responsibilities than ever before, the subject has come to have a new importance not only in the college classroom but also in the public press. Some of the larger problems are centered about the means of raising the necessary revenue without impeding proper business activity or giving rise to class feeling and gross inequality. It makes a good deal of difference, so far as the welfare of the masses is concerned, whether the financial obligations are met out of revenue from increased taxation or from bond issues, though but few appreciate the relative merits and demerits of either method. So important has the study of these public questions become that a number of universities now definitely prescribe government finance as a required subject for all undergraduates majoring in economics.

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COMPARATIVE CORPORATION LAWS AND FINANCE.

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Since exporting from the United States will attract our larger industries chiefly, and since these are organized on the corporate plan, the man or woman who is about to prepare for work in the foreign field may well include in his or her studies the subject of comparative corporation laws and finance.

Two plans are ordinarily open to an American concern doing business in a foreign country: To form a separate corporation in the country or to apply for permission for the American company to do business there; to be sure

a third method may be adopted, permitting a local concern to attend to the business as owner of the American concern's goods or as consignee, but the use of this method deprives to some extent the American concern of the absolute control of its own business.

Before any one of these methods of doing business in a foreign country can be selected, the business man will have to know something about how corporations may be formed in foreign countries, who may be the incorporators, burdens placed on ownership of the stock, and like questions. The restrictions on the ownership of property by foreign corporations must be considered. Always the tax laws must be studied carefully.

In certain countries and for certain purposes, it will be almost absolutely necessary to organize local companies. It must be remembered that the division of business organizations into partnerships and corporations holds good only for the English-speaking countries. In the Latin and Teutonic countries many other forms of association are in common use.

While it will not be necessary ordinarily to understand the intricacies of financing, since funds will be supplied by the home concern and no sale of interests in the foreign company will be sought to be made, the student should in a general way have some understanding of local laws pertaining to the forms of stock or other interests of ownership and to the conditions under which they may be issued.

Whether a concern operates a mere branch or owns a subsidiary, the local managers will have to understand the local laws governing the relation of creditor and debtor.

In some foreign countries the accounting of corporations is closely regulated. Laws pertaining to this subject will have to be studied, as will also the rules pertaining to the distribution of profits. Moreover, since corporations doing an extensive business in any country are likely to come into contact with insolvent concerns, the laws of bankruptcy and of reorganization will demand consideration.

Two methods of studying the subject are possible: The one, theoretically superior, is to study one phase of the law or of corporate financing at a time and then to compare the laws and practices of the several countries; the other method is the more practical and will probably commend itself to students, since it makes for economy of time, effort, and memory. This method consists of studying the entire subject of corporation laws and the practice of finance as they are found in a given country. As country after country is investigated, the same general outline may be used. Some such simple scheme as this may be followed:

I. Corporation laws:

1. Organization—kinds and methods.
2. Ownership—kinds, rights, obligations.
3. Management.
4. Relation to State.
5. Taxes and reports.
6. Insolvent corporations and reorganizations.

II. Corporation finance:

1. Borrowing funds.
2. Accounting.
3. Declaration of profits.
4. Special practices.

In every case a study of foreign laws and finance should be based on a thorough understanding of the principles of American law and finance. Variations from the American standard will be readily understood and retained in the memory.

Unfortunately, few books have appeared in the English language dealing with the laws and practices of corporation finance in foreign countries. Many books, however, have been written in foreign languages, but they are not readily available for the ordinary student. In compiling the following short bibliography the author has had in mind the practical necessity of sticking as far as possible to the English texts.

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INSURANCE COURSES IN THE PREPARATION FOR FOREIGN TRADE WORK.

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The foundations of a foreign trade course are the subjects of broad scope which form a background for and an introduction to studies of particular phases of economic life. As the average student's time is at least fully occupied in college by approximately 24 hours of class-work per week, the first year is easily consumed by these fundamental courses. The second and third years include a continuation of some of this fundamental work, but considerably more time is available for general business courses more closely related to the future work of one who expects to engage in foreign trade, such as accounting, the monetary and credit systems under which business is conducted, the domestic marketing systems for important commodities, the general principles of merchandising, including advertising and manufacturing, organization and operations. These considerations explain why the subject of insurance is not generally met with in college courses before the second or third year.

At the conclusion of the second year the student has completed what may be called for the present purposes preparatory subjects and is free to concentrate

attention upon such subjects as more directly pertain to his proposed calling. As concerns insurance, three hours per week may very profitably be devoted during the third year to a general course intended to explain the elementary principles of life, compensation, fire, title and credit insurance, and corporate bonding. All of these are valuable, if not essential, to anyone engaging in business, and particularly a business involving the use of credit, relations with employees, ownership and management of real estate, and commodities. Some transactions connected therewith are unavoidable in the course of business of a shipper, forwarder, export house, or vessel owner engaged in foreign trade. It is impossible in the ordinary college curriculum to require every student to take the three or four separate courses necessary to treat such subjects exhaustively, and yet it is desirable that all should be acquainted with the more important phases, an acquaintance which is furnished by a general insurance course of three hours per week.

The fourth year gives the opportunity to direct attention to two forms of insurance which are of primary importance to the exporter, shipper, forwarder, and shipowner—marine and fire insurance. With the aid of considerable outside reading, especially in connection with fire insurance, a course with two hours per week class work will probably suffice. This will consist of an equal amount of lectures and quizzing upon a text and assigned readings. In the case of marine insurance the most satisfactory plan has been found to be the use of a text supplemented by lectures and discussions. Attention must necessarily be devoted to subjects important from the viewpoint of the insured rather than the insurer, but there is danger of overemphasizing this method of treatment and omitting from consideration some subjects which are in an indirect way very intimately connected with the interests of the insured. It is evident that an ideal method would be to prepare the separate courses to meet the needs of those enrolled in such courses, but it is equally obvious that there must be a reasonable limit to the number of courses given.

The above statement is written not only with ideal conditions in mind, but with a view to what can apparently be accomplished under existing limitations. Appended is a bibliography of the more necessary and accessible publications on marine insurance.

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STUDY OF FISCAL AND CUSTOMS LEGISLATION.

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This subject is one of the most important pertaining to the curriculum of a school of commerce and finance. We see more and more manifestations of governmental regulation of international commerce; and it is necessary that those who propose to fit themselves for international trade should be equipped with a general but accurate knowledge of modern tendencies in governmental regulation, in order that later they may not work under a misunderstanding.

The regulation of international commerce from the national point of view, in such a way as at one and the same time to protect the public interest and to interfere least with the conduct of private business, has become a science. At the beginning, such regulation represented no scientific principle. The purpose of regulation of trade was largely the natural one of securing revenue. The Government intended to make commerce from abroad bear the burden of governmental administration, as far as compatible with the requirements of domestic trade. We are familiar in this country with the ancient slogan, "Let the foreigner pay the expenses of our Government."

Because of its purpose to secure revenue, public regulation of trade for a long time could not be carried on in a scientific manner. It proceeded from one detail to another, and almost never worked from a basis of principle. Through long years, governmental regulation of trade grew simply by the process of accretion. There is nothing so difficult as to overcome routinary and traditional methods of doing things; and rational reform of governmental regulation of commerce has been no easier to achieve than other improvements. Nevertheless, the struggle for simplicity has gone on, and with it a struggle for uniformity. These years of preparation for our present interest in the true nature of fiscal regulation of trade have seen a long and interesting series of efforts at international cooperation. International congresses of statistics, trade, and commerce have been held in Europe during the last 40 years, and the subject matter of the European gatherings has in turn formed a large part of the program of conferences in the United States and Latin America. As one of the most recent examples of this I may cite the International Conference of Commercial Statistics, held at Brussels in 1913, which prepared a commercial statistical schedule for international use. This schedule was adopted by the International High Commission of the American Republics at its first general meeting in Buenos Aires in April, 1916, and it is likely that it will be adopted before long as the standard of commercial statistics throughout the hemisphere.

A course of study in the field of fiscal legislation might be outlined somewhat as follows: Documentation; consular activities; port dues; methods of appraisal; classification, for practical and statistical purposes.

Obviously, some of these topics are of less importance than others. The subject of port dues has much less significance than those of classification and appraisal. The mastery of the technic of customs documentation is simpler than a grasp of the duties of consular officers. The student must be well grounded in the underlying theory of tariff legislation and fiscal regulation, and this presupposes some fair knowledge of contemporary economic theories and political tendencies, as well as of the economic history of the United States. Mere study of the documents will hardly help him without this broad foundation of principle.

The class should become acquainted with types of official invoices and manifests, taking up at the same time, by way of comparison, railway and shipping companies' invoices, manifests and bills of lading. Collections of these consular documents may be secured directly from the consular representatives of the several nations, but they are to be found in various public documents and trade cyclopedias.

The consular regulations of the United States and summarized translations of the consular regulations of the leading commercial countries should be put in the hands of students. Even though it may not be necessary to require a detailed knowledge of all the regulations, the more important consular duties should be thoroughly described.

The difficulty in studying the subject of port dues arises from their endless variety in terminology, incidence, and jurisdiction. The requirements of the larger ports should be studied in detail, and so far as the United States is concerned, reference should be had to the excellent report entitled, "Ports of the United States," by G. M. Jones, Miscellaneous Series No. 33, Department of Commerce, Washington, 1916. The latest edition of the navigation laws should be studied in this connection.

Of course, for the study of methods of appraisal, thorough and intelligent use must be made of the United States Customs Regulations. A codification of these regulations is in process, and the study of our customs system will be

greatly facilitated when this work shall have been completed. Reference may be made in this connection to the excellent reports published by the Department of Commerce and Federal Trade Commission in recent years.

The report of the Inter-American High Commission, Foreign Trade Council, of the American Manufacturers' Export Association, National Association of Manufacturers, the International Congresses of Chambers of Commerce, and many of the excellent publications of the Pan American Union should be at hand in carrying on such work. A good collection of the translations of the tariff laws of the world is also essential.

As to classification, the student must be shown how systems of classification were constructed, or more accurately, how they have been developed in the way most convenient for administrators and legislators. Frequent and careful use of tariff statistics is the best method of teaching the system of statistical classification, and the student should be introduced to all the official statistical publications of the leading commercial countries of the world. It will be worth the instructor's while to secure as complete a collection of the most recent of these official bulletins. He should note that they are sometimes to be found as appendices to the reports of the ministers of finance, rather than as separate publications. Tariff classification, so far as the United States is concerned, might profitably be studied in the reports of hearings before the Committees on Ways and Means of the House of Representatives, and on Finance, of the Senate.

Some slight knowledge of the fiscal administrative codes which obtain in many countries governed under the system of modern Roman law will be desirable, if the student expects to understand the by-no-means-simple procedure occasionally necessary in fiscal cases.

The bibliography of fiscal and customs legislation and regulation may be divided into the following three groups:

- I. Texts of national legislation and regulation.
- II. Texts of international agreements and the proceedings of international conferences on the uniformity of legislation and regulation.
- III. Manuals and treatises of administrative law.

There follow a few titles, arranged in accordance with the foregoing. The list is merely suggestive, even for the United States. Attention has been given to Latin America rather than to Europe, because of the fact that the fiscal literature of Europe is well indexed in such bibliographies as that contained in Prof. Taussig's manual.

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DOMESTIC AND FOREIGN COMMERCIAL POLICIES.

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The purpose of the courses on "Domestic and foreign commercial policies" should be:

1. To bring out clearly the relationship between the public and the private aspects of business.
2. To determine the aims and the limitations of governmental trade-shaping activities.
3. To consider the methods and agencies used by the State and by other public authorities in order to control and to promote commerce.
4. To give students a comprehensive understanding as to what business men must do or refrain from doing in order to conform to governmental requirements at home and abroad, as well as to familiarize them with the functions and the work of those institutions from which merchants may obtain guidance and assistance in the pursuit of their legitimate business enterprises.

The course on domestic commercial policies should begin with an analysis of domestic trade and with a discussion of its various forms (wholesale, retail, mail order, etc.) in so far as these give rise to and are affected by legislative enactments, judicial decisions, and administrative acts. The instructor, keeping in mind that emphasis must be laid on policies and not on technical details, should then review the measures which have been passed for the purpose of insuring the free play of competition and of preventing unfair methods and frauds. Some of the topics to be discussed are these: The regulation of markets, of stock and produce exchanges, of warehouses and elevators; classification of grain and of cotton into grades; the crop-reporting system; provisions regarding standard weights and measures; pure food and drug legislation; protection of patents and trade-marks; antitrust legislation; decisions regarding price maintenance, use of trading stamps, misleading advertising; false statement laws; bulk sales laws; the bankruptcy act. The concluding part of the course should consider chambers of commerce and similar nontrading associations of merchants as well as various governmental bureaus, departments, and commissions dealing with domestic trade.

It is desirable to have two courses on foreign commercial policies. In the first course the nature, the significance, and the essential characteristics of foreign commerce as distinct from domestic trade should be brought out. The subject matter may then be presented in the following sequence:

(a) Tariff as one of the most important manifestations of a country's commercial policy; changes in theories and in policies (mercantilists, physiocrats, classical and national schools of political economy); balance of trade versus fiscal balance; arguments for free trade and for protection (economic, social, political, military); protection of agriculture, of manufactures; different kinds of customs duties; import, export, specific, ad valorem, countervailing, etc.; incidence of taxation by means of customs duties; bounties; prohibitions of imports and of exports; the making of the tariff; tariff commission; tariff systems—autonomous, general and conventional, general and preferential, maximum and minimum; commercial treaties—their nature and scope; European and American interpretation of the most-favored-nation clause; dumping.

(b) Navigation policies; the merchant-marine question; regulation of ship-building and of shipping; shipping subsidies; discriminating duties on vessels and their cargoes; traffic agreements of ocean carriers; Government ownership of ships; improvements of rivers and of harbors; control of terminal facilities; port charges; taxation of shipping.

(c) Trade-promoting activities and institutions in foreign countries and in the United States; consular service; duties and functions of consuls, of commercial attachés, of trade commissioners; legislative committees and executive departments and bureaus devoted to the furthering of foreign commerce; the organization and the activities of the Department of Commerce; cooperation for the development of foreign trade; Federal Reserve Law and trade connections; branch banks in foreign countries.

(d) Regulations affecting commercial travelers, samples, trade-marks, credit, and collections.

The second course should be historical in character and should consider changes in the commercial policies of the United States and of the leading foreign nations. Study should also be made of the after-war commercial problems and of the ways to solve them. If no separate course is offered on customs administration, additional topics to be treated are the work of the custom-house, bonded warehouses, drawbacks, etc.

A half-year semester, three hours a week, should be spent on each course. The time for giving these courses would depend upon correlation with other parts of the curriculum; however, under no circumstances does it seem advisable to give them before the junior year. The course on domestic commercial policies should precede and should be regarded as a prerequisite for the first course on foreign commercial policies. If the subjects are taught in the junior year, the second course on foreign commerce may be given either concurrently or in the senior year.

The students undertaking this work should be well versed in principles of economics and have a knowledge of economic geography and of economic history. A careful coordination of these courses with those on commercial law, on fiscal legislation, and on business organization and operation is highly desirable in order to avoid unnecessary duplications.

The courses may undergo contraction or expansion in the presentation of certain parts, dependent on the fact as to what additional courses are offered on such topics as diplomatic and consular service, customs legislation and administration, ocean transportation, credit and collections, and exporting and importing.

Students should be required to read the current literature on the subject; reports, bulletins, periodicals issued by the Government as well as by trade organizations and associations.

There is no single volume which can be used as a text for the outlined course on domestic commercial policies. The subject may be covered by referring the students to various parts of the books listed below.

For the first course on foreign trade, Fisk's "International Commercial Policies" gives a concise and systematic presentation of some of the important problems to be discussed. The first edition of this book was published in 1907 and it is in need of a revision, a number of its chapters being out of date. Taussig's "Tariff History of the United States" may be used for one part of the second course on Foreign Trade, the other parts to be covered by means of assigned readings.

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PART II. GOVERNMENT.

THE CONSULAR SERVICE.

By EARL WILLIS CRECRAFT,

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The examinations which are given by the State Department to applicants for positions in consular service include the following subjects:

- I. International, maritime, and commercial law.
- II. Political and commercial geography.
- III. Arithmetic.
- IV. Modern languages.
- V. Natural, industrial, and commercial resources and commerce of the United States.
- VI. Political economy.
- VII. American history, Government and institutions.
- VIII. Modern history (since 1850) of Europe, South America, and the Far East.

It will be seen from this that no single course of lectures which a school might offer will cover thoroughly all these different subjects. Each subject in the above list is more or less a special subject in itself. The faculty of a large school of commerce is composed of specialists in each of these lines. Therefore the student who would prepare for the consular service would find it necessary to take a number of courses under different instructors instead of expecting to find one course answering for all.

A student who wishes to prepare for the consular service should enter a school of commerce or department of economics and pursue studies in those courses which most nearly fit the prescribed subjects which are made the basis for the entrance examinations at Washington.

In meeting the requirements in international law, several universities offer courses on the principles of international law and an advanced course in treaties and the treaty-making power. In addition to these courses, there are two courses of one semester each which bear directly on the organization of the consular and diplomatic service and the rights and duties of diplomatic and consular representatives in the protection of citizens and property abroad.

Mr. Wilbur J. Carr, the Director of the Consular Service, has perhaps correctly stated the true situation relative to the inadvisability of any university expending a large amount in establishing a school for the consular and diplomatic service. In discussing this subject at the Conference on Training for Foreign Service, held at Washington, December 31, 1915, Mr. Carr said:

I think it may well justify serious consideration as to how many courses you can maintain in your universities—that is, courses additional to the regular courses in the university—for preparation for this particular work; but there is a way in which I think our need can be met, and very much greater needs be met, by taking advantage of and meeting the condition which is confronting us now with reference to the training of men for foreign service in connection with our export trade, due to increased business with other countries through private enterprise. So far as I know, the eligible men for that kind of work are very few; and in this connection the educational institutions of this country are confronted with a problem which they will have to meet. From what I

have seen of the work at Harvard and in the school of commerce of New York University, it seems to me that it would be perfectly possible to combine a course of training for the American Consular Service with a course of training for service in export trade, and have sufficient demand for those courses to enable them to be maintained, or at least, a reasonable part of them.

I am convinced that the university training you would give a man who is to be an export manager or an international banker, or who is even to be a salesman abroad, is essentially that which would meet the requirements of the Consular Service. I do not see why it would not furnish the foundation for the making of a good consul, plus some specialization in international law and in the history of treaties and similar subjects. It seems to me we have there the basis of a work which can be done and will meet our needs and those of the new field of foreign commerce.

The following courses in political science in schools of commerce will be seen to coincide with the list of subjects which are made the basis of the consular and diplomatic examinations at Washington:

- I. International law.
- II. Treaties and the treaty making power.
- III. Rights and duties of consuls.
- IV. Diplomatic protection of citizens and property abroad.
- V. Principles of accounting.
- VI. Spanish, French, or German.
- VII. Industrial and commercial geography.
- VIII. Political economy.
- IX. Commercial law—law of contracts.
- X. Commercial law of Spanish America.
- XI. American government.
- XII. Europe since 1870.
- XIII. Current international problems.

The completion of this program would be representative of approximately two years of work. It is not necessary for special students to hold strictly to a set course for three or four years. Special students may enter and take whatever courses they prefer. However, I should personally recommend in preparation for the Consular Service that the student get at least two years of general collegiate work before beginning to take the specialized subjects which have been mentioned above.

One difficulty about the whole matter is that the salaries of the lower grades of the Consular Service are low. Men who have had a good start in the business world are not tempted by low salaries. Business experience is no doubt a help to the commercial representative of our Government abroad. According to Mr. Carr it is not absolutely essential that the applicant for a position in the Consular Service have business experience to his credit. The right kind of educational equipment and personality are the prime factors.

But while commercial training should be emphasized in fitting men for the Consular Service, the political, diplomatic, and governmental side must also be kept prominent. This is where international law, diplomatic history, treaties, and political science in general are undoubtedly important branches of training not only for the consul, but for the secretary of legation and for the commercial attaché.

It is frequently advocated that business experience be required, however. Mr. John Hays Hammond, in an article published in the Forum for July, 1916, advocates business experience not only for consuls but for diplomatic representatives. He advocates the selection of consuls with "due consideration to be given for their future service in the diplomatic corps; so that ambassadors may be chosen from men who have attained distinction in the Consular Service."

With all respect for the wide experience and information with which Mr. Hammond writes, it will not detract from the force of his point to add that a business man who finds himself suddenly placed in an important diplomatic position will find himself seriously handicapped unless he is informed in the subjects of history, economics, international law, and diplomacy. It is appropriate, therefore, that the Department of State has attached much weight to these subjects in the entrance examinations.

One very important feature in addition to the preceding could be introduced into the university course of training. This would be the inauguration of a system of having consuls who return to this country on leave lecture before classes which have students enrolled in preparation for the foreign service. This would place before students and the regular instructors of the university first hand information in regard to the commercial opportunities where the consuls are located abroad. This would be in line with the plan offered by the National Foreign Trade Council relative to recommending that consuls returning on leave to this country appear at business conferences and conventions for the purpose of acquainting these bodies with business opportunities abroad.

Officials of the State Department have recommended that funds be provided to enable consuls to attend such conventions. The writer of this article desires to express the hope that, as this practice becomes perfected, returning consuls will visit educational institutions where conveniently located, and address classes of young men who are preparing for foreign service. This practice would be a great incentive to the work of the lecture room. If chambers of commerce are to secure the services of our consuls when they return for a temporary visit, there seems to be no valid reason why they should not be provided with the funds to enable them to appear in the more important and centrally located schools of commerce where men are preparing to enter the identical kind of work in which they themselves are engaged.

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CIVICS.

Immigration and Citizenship—Social Legislation.

By HATTIE PLUM WILLIAMS,

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I. *Immigration and citizenship.*—It scarcely seems necessary to suggest that a knowledge of the composition and movement of the population of a country is

fundamental for those engaged in foreign service of any kind. Upon the degree of mobility of the population within the country will depend very largely the desire for new goods and the facilities for distributing them, while its movement in and out of the country will provide opportunities for commercial intercourse and necessitate diplomatic relations. Students of immigration who regret the overemphasis of the economic factor in this problem nevertheless recognize that economic opportunities are the greatest force in modern times in drawing people into foreign lands, and that trade currents can follow migration grooves as naturally as they follow the flag. No one has yet studied immigration as a world phenomenon. It is still thought of in provincial terms as a problem peculiar to the United States, and not as one with which every country struggles more or less.

The supply of and demand for inhabitants is a basic fact not only in the movement of population but also in the development of markets and especially in the future political relations of the countries of the world. In the Far East a thorough and sympathetic understanding of the problems arising out of the pressure of population, and constructive cooperation with those countries in formulating a program of relief, will go far toward averting a clash of interests between East and West. In Russia and the South American States, where undeveloped resources wait upon an increase in population, the problem is the reverse, but no less momentous for the peace and prosperity of the world.

No less important is a recognition of the various racial groups which make up the political unit or State. Everywhere abroad, where assimilation is less complete and considered less essential than in the United States, foreign groups are zealous for the recognition of racial distinctions. One can readily imagine the loss of good will which might follow the refusal to take note of this race prejudice and to classify properly various racial groups.

Keeping in mind the purpose of the course outlined above, the following brief syllabus is suggested for Latin America, the Far East, and Russia:

1. Distribution and density of the population.
2. Movement of population—
 1. Birth and death rates, increase of population and distribution of increase.
 2. Migration—
 - (a) Internal movement of population—
 - (1) Between States—causes.
 - (2) Between rural and urban districts.
 - (3) Causes for immobility where it exists.
 - (b) Emigration—causes; countries sought; attitude of government and public opinion toward; legislation against; treaties controlling; detailed study of such movement to the United States.
 - (c) Immigration—sources; causes; character; effect on country; social status of immigrants; governmental encouragement; land policy; immigration laws; colonization societies.
3. Elements in population—
 1. Native stock—racial classification.
 2. Foreign stock—importance to national life; assimilation with native stock; attitude of foreign groups to each other; admission to political rights; citizenship laws.

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II. *Social legislation*.—If one were to single out the factor most essential to the success of those engaged in foreign service, he probably would be correct in designating it to be the ability to acquire the viewpoint of the people in whose country such agents are located. In this respect, foreign service differs from domestic, if not in kind, at least in degree. It is not merely getting the viewpoint of another personality in his own group but understanding those who have different historical backgrounds, customs, and moral and ethical standards.

This viewpoint is secured partially by a study of the language of a racial group, but ordinarily the attention of the student is so engrossed by the physical process of learning to read and speak that he loses all appreciation of the soul of the people which language is supposed to express. History offers another possible avenue of approach but the emphasis upon the political and economic phases to the virtual exclusion of institutions and laws gives an inadequate idea of the culture and ideals for conduct of the people.

The chief reason we object to certain groups of foreigners in our midst is not primarily because they are racially inferior, and therefore threaten to dilute or degrade our American stock. Rather is it because their business, moral, and ethical standards are different from ours, and we therefore fail to understand their conduct. Measured by our ideals they seem to lack integrity, and other primary virtues; while we in turn need to be interpreted to them, lest rudeness and boastfulness be our outstanding characteristics. A study of the social institutions of a people and the legislation controlling them will help in understanding the standards which control the conduct of foreigners.

The following types of social legislation should be familiar to every student.

Laws respecting living and working conditions:

Factory legislation—

1. Sanitation.
2. Hours of labor.
3. Wages.

Social insurance.

Housing conditions.

Health legislation.

Laws respecting women and children:

Conditions under which they may work.

Education—

Schools—compulsory laws; illiteracy.

Press—freedom of.

Laws respecting the family:

Marriage and divorce.

Status of women and children.

Laws respecting special classes:

Dependent—Unemployed, homeless children.

Defective—Feeble-minded and insane, deaf, blind, crippled.

Delinquent—Juvenile delinquency, adult crime.

The work outlined above must be conducted as lecture courses for the simple reason that there are no texts which adequately cover the material. Particularly for the latter are sources so greatly scattered that a satisfactory bibliography is not possible in the short space available. Since a large fund of knowledge is helpful to a proper appreciation of these subjects, they should not be given before the second half of the third year.

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INTERNATIONAL LAW.

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The minimum requirements should be:

1. International law, the equivalent of three hours a week in class for one year.
2. International relations, covering diplomatic and other policies, three hours per week in class for one year.

Whenever possible the above studies should receive attention to a total amount of 18 hours, or the equivalent of 6 hours a week for 3 years. The emphasis upon different aspects should be varied according to the special line of work which the student is planning to enter. These studies are best adapted for students of junior and senior grade who have had previous training in history and political science and for graduate students.

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COMMERCIAL AND MARITIME LAW.

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Commercial law, in one form or another, governs almost all of man's activities on this globe, and when they are pursued on the three-fourths of the earth that is sea, they are controlled in their maritime aspects by the maritime or admiralty law in addition. Is it not universally true, then, that all men,

because they are directly concerned, ought to know the general principles of this law? Success in business, moreover, is conditioned on the establishment of mutual respect and confidence between contractors, and the stranger the contractors are to each other the more imperative it is that each party overcome the other's possible suspicion by as rigid a respect for the rights of that other as his insistence upon his own rights is vigorous. Is it not equally true, then, that ignorance of the laws governing trade must hamper him who would trade with those of his own nationality and language and, in increasing degree, him who would trade with foreigners to his land, his speech, and his native viewpoint, customs, and peculiarities? Every man, and especially he who would engage successfully in foreign trade, should know the legal effect of his acts and conduct his business with full knowledge of what he is doing when he incurs obligations or acquires rights.

Commercial law is a name loosely given to those branches of the law which govern everyday transactions in business, such as the making of contracts, the use of negotiable paper, the formation of business associations, etc. One would think that a working knowledge of such branches of the law would be common, at least among so-called "business men," if not among the people at large, and yet every lawyer in active practice has had driven home to him again and again the appalling ignorance of otherwise wide-awake and well-informed business men as to the legal effects of entering into a partnership, for example, or of indorsing the check of an out-of-town visitor in order to accommodate him by enabling him to cash it at the host's bank, of responding by letter to an offer of contract made by telegram, of surrendering a deed in exchange for purchase money paid by uncertified check, of depositing trust funds committed to his care to the credit of his personal account in the bank, or of many other common acts too numerous to mention. Far more than pessimists could be driven to admit or optimists would claim, the great majority of men and women are fairly honest, considerate, and accommodating in their dealings with each other. Were it not so, our courts would be overwhelmed with trivial disputes over questions highly difficult of decision, and every man would have to be a lawyer, whether he would or not, or else speedily contribute another example to the doctrine of the survival of the fittest. As it is, the calendars of our courts are congested with preventable litigation, and thousands of dollars and unmeasured assets in business confidence are daily squandered through popular ignorance of the most fundamental principles of commercial or business law.

What do we advocate? Universal required instruction in business law in all high schools and colleges. Our problem here is particularly with colleges, where the treatment of the subjects taught should, of course, be more thorough than among the young pupils in the high schools and suited to the maturity of the students taught. This instruction, in the academic and scientific departments of our universities, should not and can not be either a substitute for or a competitor with the more arduous and thorough training of the students in the law schools who intend to follow the law as a profession: nor can it be given the same number of hours as are allotted to the same subjects when taught in the law schools. But it should be allotted at least two hours a week for two full years, if it is expected to teach anything beyond contracts and negotiable paper, and particularly if the course is designed not only for those who seek a general knowledge of the law as a matter of education or who need it to meet the requirements of examinations for the consular service, but also for engineering students or those who may intend an active commercial life. And this should be the minimum. If more hours can be allotted to this

field of study, there will be no difficulty in using them, and that without inviting any well-grounded objection that a full law-school course is being built up in departments of arts and sciences. As to the years in which it should be offered, they should be the two final years in the course. Much of the law is extremely technical, and for its proper understanding demands as do few subjects maturity of mind and trained powers of reasoning.

Now, as to the method of instruction. In our best law schools we have abandoned the old textbook method and have adopted the Harvard case system or laboratory method of teaching the law. An exclusive use of this method may not be found practicable in view of the limits in time and the extent of the field to be covered in these law courses in colleges of arts and sciences. But, so far as it can be employed, it should be. The ability to state from memory abstract principles of law is of little practical use to one if he is unable to tell which principle he should apply to a given string of confused facts suddenly calling for action. Legal difficulties, as they arise, seldom bear marks of textbook classifications upon them, and he who essays to solve them applies the right or wrong principle at his peril. The instructor should bend every effort to make his instruction, by specific, concrete, everyday illustrations and examples, practical in the highest degree.

A word in conclusion on the subject of maritime or admiralty law. Students aspiring to the consular service and those intending to engage in overseas commerce need a general understanding of the laws of the sea. They may never be called upon to display a knowledge of the steering rules or the laws concerning collusions, but they should know the principles and rules governing charter parties and contracts of affreightment, general average and marine insurance, salvage and the other main branches of the admiralty law governing daily transactions occurring in every port and in connection with every sea venture, principles and rules differing radically from those governing similar transactions occurring on the land. Not much time can be given to such a subject in the kind of course here under discussion, but, by judicious selection of matters to be treated, it can be covered, and that fairly well, in 8 or 10 periods.

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THE ECONOMIC BACKGROUND OF MODERN WORLD POLITICS.

By ABBOTT PAYSON USHER,

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The phrase "world politics" is unfortunately vague, and in this country would scarcely possess even the moderate degree of precision of meaning that would be suggested in Europe. The primary economic questions in world politics center around tariff problems and expansion. Expansion may involve actual acquisition of dominion or merely peaceful penetration of a commercial character. Both of these subjects may seem to be rather special topics, but it is impossible to discuss them in that spirit. The great issues in economic policy are most clearly joined on these questions, so that the study of world politics really involves discussion of the general principles of economic statesmanship. If all question-begging implications are to be avoided, one must endeavor to discover whether there are any general principles that should be recognized by all statesmen. It has long been the ambition of thinkers to formulate principles of action in high matters of state that should, at the least, be more nearly right than the principle or absence of principle that disfigures much political activity.

This discussion of general principles becomes in fact a study of three definite systems of economic statesmanship—mercantilism, bureaucratic collectivism, and liberalism. Each of these general terms must be interpreted in a broad spirit, and many diversities of thought will be found under the general cover of each general type, but there are grounds for making these very general distinctions. Mercantilism is a type of political thinking that is essentially empirical and naive. It appears most characteristically to-day in the crude expansionist policies that appear in all countries. The other types both purport to be "scientific" systems of policy; one is collectivistic and in many cases autocratic, the other is disposed to emphasize the mutual interdependence of society and the individual. Although the distinctions between these systems of thought can easily be exaggerated, the collectivistic theory really turns upon the assumption that the leaders of the State have the power to accomplish what they will; it is based upon a theory of freedom of the will; the liberal theory, on the other hand, is based upon the idea of subordination to laws of nature, and assumes significant power of accomplishment only when action consists in an application of natural law. The liberal theory is at once an attempt to explain the past and to guide statesmen with reference to the future; it portrays social life as being essentially an adaptation of man to his environment, not neglecting his power to transform his surroundings but finding the facts of major importance in his adaptations. This interpretation of history naturally places a notable emphasis upon many kindred subjects, geography and geology, the history of inventions of industrial importance, and the history of commerce.

The study of these matters of general principles can be made most precise and concrete if the historical method is followed, and, although this would lead to a very elaborate presentation if carried into much detail, it is possible to put the more important aspects of the subject before the average sophomore or junior. Within the compass of an undergraduate course it is not wise to attempt more than a general sketch of the development of these three modes of political thinking in England and Germany. So many of the general notions are a commonplace in modern thought that a brief sketch can be made to appeal to students, despite the genuine difficulty of the subject.

After the general discussion of policy the larger aspects of tariff history in the nineteenth century can be significantly treated. The development of the German customs union and the change to protection in 1879 are essential to an understanding of the great issues of the century. The passing of the protective policy in England is an important topic, and it is desirable to give some attention to the subject if there is time. Unless the course runs throughout the year it will scarcely be possible to find time for any adequate treatment of the changes in policy in England. These problems can be most significantly discussed with reference to their bearing upon the rivalry that developed between Germany and England toward the close of the last century. It is particularly wise to urge the class to find some explanation of the industrial regeneration of Germany; is it to be explained as a result of protection or German character, or is it a result of certain general industrial and commercial changes? In order to stimulate thought on this subject, some presentation of the larger aspects of industrial and commercial history must be included in the course.

Carrying out the idea of historical presentation of the problems, the subject of colonization is also most advisedly approached from the historical point of view. It is wise to concentrate attention upon the development of African colonization since 1885, but these events would have little meaning without some

brief sketch of the larger features of colonial policy in the earlier periods. The modern problem is so definitely a tropical problem that the study can be confined to the conditions created by European contacts with countries whose climate is unsuitable for the permanent settlement of Europeans. Many deny the existence of sincere and legitimate motives for the acquisition of dominion over tropical countries; it is therefore a matter of some moment to show that the principles of modern liberal statesmanship are really free from the taint of selfish pursuit of commercial interests. The errors of judgment and the too frequent abuses that creep into a weak administration make it somewhat difficult to place the development of sound principles in proper relief. Particular emphasis has been laid upon the history of the Congo, because it illustrates both the futility of many suggestions made by antiexpansionists and the substantial progress that was being made toward the establishment of a better system of colonial administration in the Tropics. The relation of the Berlin act to the Congo makes the study an essential basis for the discussion of the international settlement in other parts of central and northern Africa.

It is possible to present the larger features of these problems in a single semester, but experience has shown that it is impossible to do full justice to the subject in that length of time. The students, however, are likely to regard the subject as relatively special, and it might well be difficult to enlist their interests in a full year course until an academic tradition has been established. If it is desired to emphasize matters of information that would be of importance to persons preparing definitely for administrative or commercial work in the foreign field, it would be absolutely essential that a full year, at the very least, be given to these problems. It would be possible to make two courses, dealing respectively with tariffs and colonies, and, if vocational interests were predominant, the additional time would be of great value. Here at Cornell, students are required to take elementary economics before registering in other courses in the department; and, as freshmen are not allowed to elect elementary economics, students in the arts college can not take other courses until their junior year. The special courses in the department thus become upper-class courses. I believe that juniors have been more numerous than seniors in my course on world politics. Special information is not required, so that it is wholly practical to give the course to a mixed class of juniors and seniors; if the course were made part of a fixed curriculum it might well be given in the earlier years as it would tend to stimulate interest and habits of reflection.

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THE HISTORY OF EUROPE SINCE 1850 AS A STUDY PREPARATORY FOR FOREIGN SERVICE.

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Recent years not only have brought about the active participation of the United States in the affairs of Europe, but also have stirred up in the mind of the average American a highly increased interest in European history. As one faces the problems of reconstructing the social order or tries to understand the causes of the World War, it is soon realized that the happenings of to-day can not be explained by the events merely of yesterday, and that the roots of the present lie deep in the past. One finds, moreover, that a deeper study is needed than that of the daily newspaper or the popular magazine before one can begin really to grasp the true explanations of present conditions. For those, therefore, who wish specially to prepare themselves for foreign service a knowledge of the history of Europe in the nineteenth and twentieth centuries must constitute an essential part of their intellectual equipment.

The problem of teaching or studying such a subject as this is chiefly a problem of the amount of time available. A survey of the subject may be attempted in a single college "course"; for advanced study and research a lifetime would be all too short. A single course, however, whether pursued in college or studied privately will serve to accomplish two ends; first, to outline the great topics that must be studied, and, secondly, to point the way to further study, through information as to books in the special subdivisions of the field. It is highly desirable that such a course on the period since 1850 should be preceded by a general course on the history of Europe before 1850, in order that an idea may be gained of the foundations of modern Europe. Otherwise much will have to be taken for granted.

We have spoken thus far of the value of the single outline course. But such a course, whether of a half-year or a whole year in length, will serve only as an introduction. With this the ambitious student will not rest content. He will see the necessity of greater thoroughness of preparation. Let us assume that after laying the foundations of a general education, and after mastering at least one foreign language, he will devote the last two years of college to a really adequate study of a more specialized character, and, if possible, will continue his work into some years of graduate study. For such a student there is open a choice of fields embarrassing in their richness and fascination. He will proceed to combine with theoretical treatment the historical approach to the great divisions of economic and social science.

First may be noted the importance of the geography and geology of the countries of Europe. Upon this basis rest the development of agriculture and the production of raw materials. Does farm ownership or farm tenancy prevail? Is the food supply sufficient? What are the export crops?

Another factor is that of population. Only through an historical approach can the racial animosities that threaten the peace of Europe be understood. What is the significance of the birth rate? What are the causes of emigration? To what extent do religious difficulties interfere with the orderly pursuit of life?

Closely allied is the labor question. What is the standard of living, and is this changing? How is labor organized? What theories or philosophies govern the labor class? The rise and development of the different types of socialism constitute a field for investigation the importance of which is still little appreciated by many business men in America.

Similarly the development and organization of manufactures must be studied. To what extent has the modern industrial system really penetrated Russia? How have the Germans so successfully invaded other countries in the development of manufacturing industries? What are the sources of capital? What is the status of the organization of industry? What is the attitude of the Government toward combinations of capital? What are the relations of capital and labor and how controlled by the Government?

In direct relation to all the preceding must be the study of transportation. What are the routes of commerce and what determines these? To what extent are internal waterways used? What is the history of the railroads, are they owned, operated, or controlled by the Government? What countries of Europe are under-developed in respect to railroads? What lessons can America learn from Europe?

No less important, indeed inextricably involved with the foregoing, is the matter of finance. In each country the matter of revenues and expenditures, the public debt, the taxes, the currency and banking systems, the institutions of credit, both commercial and agricultural, will be the cause of much anxious thought to the next generation. The question of tariffs will come in for new consideration.

To a greater extent than ever before will the problems of social betterment be in the forefront, such as the control of poverty, crime, and disease, and the development of insurance against old age, illness, and unemployment, the responsibility of the Government in the matter of finding employment, and vocational education.

Further, the student must learn from the history of Europe how the great peoples have governed themselves. The oldest of constitutional States, Great Britain, has seen during the war a most radical extension of the suffrage; just before the war it saw both a radical change in the position of the House of Lords and the enactment of a code of social reform the purport of which is yet hardly understood.

Finally, there must be studied the international relations of Europe; the unstable edifice of the "balance of power" that fell to pieces in 1914; the evolution and maintenance of the German military state, the preparations for defense against it, and the conflict of the alliances. Closely allied therewith is the problem of colonial administration and the conflict of rival imperial systems. The piling up of armaments and the problem of naval supremacy, and the efforts to arrive at a means of adjusting international differences without recourse to war that found expression in the Hague conferences, and the failure of such efforts, demand the study both of history and of international law.

Over and above the investigation of these content-subjects, the study of recent European history has to offer much that is valuable in the way of method. The penetrating student must master the use of statistics; he must examine the publishing activities of governments; he must know the location and the resources of great libraries and the publications of technical societies. He must look into the educational institutions and the educational methods of the states whose minds he would understand. Himself a trained man, he will discover the use of trained men in the service of the modern State.

Besides the great variety of subject matter that confronts one, one has to reckon also with the complexity that arises from the great number of the separate States of Europe. A selective process is necessary; one can follow a particular subject, such as the development of finance, throughout all Europe, or he can study many phases of the life of a single country. The important thing is to know something of the whole and to do thoroughly work in some restricted field. For such advanced study courses in history, government, international law, economics, and social science are offered by all the larger universities. Such advanced study will be most profitably pursued under the instruction of experts in the respective fields, who can advise also as to the proper correlation of elective courses to meet the needs of the particular student. The private student can do much, however, through intensive reading. For this he will need bibliographical aid. Such assistance will be obtained, at least by way of beginning, through reference to the carefully prepared lists of books which are included in each of the textbooks mentioned.

For the outline course on the period since 1850 several excellent textbooks are available, of which four may be mentioned as especially suitable.

Hazen, C. D. *Europe since 1815*. New York, Holt & Co., 1910. 830 p.

Hayes, C. J. H. *A political and social history of modern Europe*. Vol. 2. New York, Macmillan Co., 1916. 582 p.

Schapiro, J. S. *Modern and contemporary European history*. Boston, Houghton Mifflin Co., 1918.

Holt, L. H., and Chilton, A. W. *The history of Europe from 1862 to 1914*. New York, Macmillan Co., 1917.

Turner, E. R. *Europe, 1789-1920*. New York, Doubleday, Page & Co., 1920.

Of these the first and the last are stronger on the political side, while the second and third emphasize the economic and social factors. All of them, however, discuss the great topics that must be considered: The development of the separate nationalities of Europe, their rivalries and the "balance of power," national imperialism, the progress of industrialism and democracy. All except the first discuss the causes of the World War. For the special history of the war, in its various phases, there is a rapidly increasing mass of books, an excellent guide to which may be found in G. M. Dutcher's "A Selected Bibliography of Publications in English Relating to the World War"; in McKinley, A. E., "Collected Materials for the Study of the War," Philadelphia, McKinley Publishing Co., 1918, a compilation of high value to every student. Very full, but without any helpful critical comment, is "A Check List of the Literature and Other Material in the Library of Congress on the European War," Washington, Government Printing Office, 1918.

HISTORY OF THE LATIN-AMERICAN REPUBLICS.

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In many respects the rise and development of the nations of the New World which were formerly under the rule of Spain and Portugal are of great interest and value to the American student. They represent a type of civilization quite distinct from our own. They started upon their independent career substan-

tially without experience in self-government. To acquire it, they had to pass through a process of experimentation in political theories and practices which is unique of its kind. As a laboratory for the study of race problems, no part of the world is richer than the region of Latin America. In the great majority of the Republics the population is a blend of white, Indian, and Negro. The traits and customs inherited from the three ancestors must be understood and appreciated by Americans, if their relations with Latin Americans are to be productive of mutual advantage. From an economic standpoint, the southern countries have been lands of exploitation, rather than areas of settlement and development. Rich in natural resources, they have attracted a considerable amount of capital, but not immigration to anything like the extent required. How the several factors of national progress have operated in an environment so different from that of the United States offers a wide field of profitable inquiry.

When arranging any program of study, not only must all these points of variance from our own conditions, past and present, be borne in mind, but two notions prevalent among our people must be guarded against. One is, that the Latin-American republics should be viewed in a patronizing fashion as localities of scant importance. The other is, that since both they and the United States are situated in the Western Hemisphere and have republican forms of government, American standards of judgment should be applied to them. The subject, nevertheless, should be approached from the standpoint of the history of our own country, not in order to stress evidences of similarity, but to emphasize characteristics of essential unlikeness, and hence to ascertain how the two types of civilization may be adjusted beneficially to each other.

Assuming that the student has been thoroughly grounded in the history of the United States, the episodes in that history which suggest a possible connection with the course of events in Latin America should be utilized as vantage grounds from which the survey of the latter can be undertaken. Thus, for example, the condition of the Thirteen Colonies at the time of the American Revolution, and the later relations of the United States with Spain through the cession of Louisiana, would afford opportunity for a consideration of the circumstances of the Spanish and Portuguese colonies during the same period, with the idea of showing to what extent such circumstances were responsible for the subsequent overthrow of the control exercised by the mother countries concerned. Then, the fact that the United States became involved in the struggle between France and the other European powers from 1803 to 1815 supplies an easy transition to an examination of the relationship of France to Spain and Portugal, in its bearing upon the earlier phases of the wars of emancipation in Hispanic America. The Monroe doctrine, similarly, furnishes a nucleus about which the story of the rise of the independent republics could be woven. Following these indications, the Mexican War, the Clayton-Bulwer treaty, the Ostend manifesto, the Civil War, the "Virginius" affair, the Santo Domingan episode, the attempt at American interference in the Chilean-Peruvian War, the establishment of the "Pan American Conference," and the increasingly numerous points of contact between the United States and the Republics of Latin America since 1889, could all be treated as centers of departure for excursions into the intervening history of the Republics themselves.

For the purpose of collegiate instruction in the subject, the colonial period need be examined no further than to ascertain the general situation, political, economic, social, moral, and intellectual, in the Spanish and Portuguese dominions at the outbreak of the wars of emancipation. After a few introductory sessions devoted to this theme, the story of the national development of

the Latin-American Republics from about 1806 onward could be presented to advantage during a single semester of three periods a week, preferably in the first term of the junior year. If desired, it would be easy to expand the work so as to make it cover both terms. Given the existing state of the curriculum in most colleges, however, it would appear more serviceable to devote the second term to a study of contemporary Latin America.

In the excellent "Syllabus of Latin-American History," by Prof. William Whatley Pierson (University of North Carolina, Chapel Hill, 1917), there are several books cited, any one of which might be used as a convenient manual for the course. It would be advisable, nevertheless, for the teacher to prepare an outline of those phases of the history of the United States, already indicated, which could be employed as actual points of departure. The syllabus in question would supply the topics needed for Latin America. In addition to these, it furnishes a working list of the more available books and articles for reading and reference, covering both history and present conditions.

Since 19—or if Haiti be included, 20—countries are involved in any general survey of Latin America, and since among them 18 have a Spanish origin, it might be desirable, after dealing with the period of the wars of emancipation, to take up in more or less detail the history of certain typical countries in the Spanish group, rather than attempt to handle them all. The list chosen should comprise the republics in and west of the Caribbean Sea, with which the United States from time to time has come into closest contact, and a number of the South American nations as well. In the former, Cuba, Mexico, and the Central American republics viewed practically as a group; in the latter, Argentina, Chile, either Venezuela or Colombia, and either Peru or Bolivia, could be selected to represent the Spanish-American countries. The history of Brazil, of course, must be studied, not only because of its intrinsic importance, but because it deals with the Portuguese element in the evolution of Hispanic America.

THE STUDY OF THE HISTORY OF THE NEAR EAST AND NORTHERN AFRICA.

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The Near East comprises Turkey, including Constantinople, Asia Minor, Mesopotamia, and Armenia; the Balkan States, including Greece; the Caucasus, Persia, Egypt, and northern Africa. Russia must also have some consideration. This is the Mohammedan East, past and present; a Mohammedan world, sometimes united but more often as divided against itself as is the Christian world. For centuries now Mohammedanism has been the one most constant factor and element of this Near East. Every factor, however, must be taken into account, political, economic, social, historical, racial, religious, in the case of every nationality. The student preparing for foreign trade must systematize his study in every way possible and assign an amount of time to each commensurate with its relative importance.

The first of these factors is the purely historical. Nowhere in the world does the historical background count for more than in the Near East. The prestige of history is what sustained the Turk in power. The episodes of Serbian, Bulgarian, Roumanian, Georgian, and Armenian history which these nationalities cherish, they cherish with a tenacity that we must appreciate, if we are to understand them and their interests. Possibly most important of all are the Greek traditions which have shaped the policies of Greek rulers, kings, or ministers. It

is not too much to say that the Greek and the Armenian, the Serb, the Bulgar, and the Georgian, and finally, most emphatically, the Turk owed their social, industrial, and economic status very largely to the current of history that swept them together the way it did.

The geographical factor can easily be underestimated in considering the history of as well as the conditions of the Near East. The student must know the arrangement of mountain and river valleys in the Balkan Peninsula, the distribution of seas, Red, Mediterranean, Aegean, Black, and Caspian; of gulfs like the Persian and of straits like the Dardanelles and Bosphorus; of the river valleys of Mesopotamia and Egypt and of the Caucasus Mountains, the Armenian Plateau, the mountain ridges of Asia Minor, the Balkans and the Carpathians; all these physical features have influenced and will influence economic, social, and political conditions.

Third, the economic resources of the Near East are vastly greater than is generally understood. The variety of products, as well as the quantity of production, have made it the seat of empires and long ago fastened upon it the eyes of imperial dreamers in Berlin as well as in Petrograd and elsewhere. The story of Turkish dominion in western Asia reveals the reason for the backwardness of the development of these resources, mineral and agricultural.

Most complicated of all the factors is the racial. From the Balkans to the Caucasus, from the Black to the Red Sea, the mixture of races is like unto that in no other part of the globe. The Caucasus region has its peculiar problems, shared only partially with the eastern Asian tablelands or the Mesopotamian region. Second only to the Caucasus, the Balkan peninsula presents differences of race the most complicated and here, of course, such differences are the more important from the fact that the Balkans are at the front door of Europe, not in a corner distant from civilization but vitally affecting the whole of Europe, while similar conditions in the Caucasus or in eastern Asia Minor might go on, as history has demonstrated, from bad to worse without seriously interfering with European affairs.

The religious factor is by no means the least important. The Christian element is found in every quarter and so is the Mohammedan. Even in Mesopotamia, along the upper reaches of the rivers, are the Nestorians; and, on the other hand, the Mohammedan element in the Balkans and in the Caucasus needs consideration. It will not do, moreover, to stop with any superficial distinctions. It may make a very great difference politically whether the tribe or nation which you call Mohammedan is Sunni or Shiah, or whether a people are Greek Christians, Armenian, or Georgian, especially in Asia Minor.

A possible division (the figures appended suggest relative weight) of such a course based upon 90 lecture periods might conceivably be as indicated below:

- (4) Ancient empires and civilizations (before Alexander the Great).
- (3) Greek influence in the Near East.
- (2) Roman influence in the Near East.
- (3) The Byzantine Empire.
- (6) Islam and the Arab conquests.
- (20) The Turkish Empires.
- (18) The Balkan peoples.
- (2) Egypt in modern times.
- (7) Austria-Hungary and the Near East.
- (13) Russia and the Near East.
- (5) Northern Africa.
- (9) The Near East as a focus of international relations.

Something should be said to bring out the salient facts concerning the great empires of antiquity whose seat was the Mesopotamian and Egyptian river valleys, a word about the Greek penetration under Alexander and his successors,

and another concerning the influence of Rome. A brief study of the Byzantine civilization should be followed by a sufficiently clear exposition of Mohammedanism and its influence upon the peoples accepting it. There should be a more intensive investigation of Turkish institutions, the development of the Ottoman Empire and a most thorough study of the origins of the Armenians and Georgians, the Balkan peoples and the Balkan States. The connection of the European powers with the peoples of the Near East, involving some excursions into European diplomacy, should be patiently unfolded. Up to about 1700, Constantinople was the center of power; since then it has been the center of intrigue. Up to then, from the Bosphorus had gone out the word of law eastward and westward, northward and southward. Since then, the radiating lines point toward the Bosphorus from London, Paris, Vienna, Berlin, and Petrograd. These interests, economic as well as political, of each European State, including those of the Balkans, in any quarter of the Near East need to be set forth and amply explained to the full comprehension of all students.

Under these topics should be considered the economic as well as the political conditions, the trade routes of Christian and Mohammedan, the resources, agricultural, mineral, etc., of various sections during each important period. Probably the geographical factor would be taken up first, but it must also be referred to repeatedly as the trade conditions and productivity of each section need to be noted. The diplomatic factor grows in strength as the course works down into the nineteenth and twentieth centuries. No course of this kind could be complete if it did not bring out the economic and political reasons why the Near East has been the hotbed of so many European wars.

The history of the Near East and Africa can be covered properly in a minimum of one year (two semesters) of three hours a week of lectures, supplemented by outside reading. The presentation of the subject should be a proper compromise between the chronological and the topical, with increasing emphasis upon the later periods. Preferably it should come in the junior or senior year of college work, since the new environment, new names, new races, new conditions are apt to appall the less mature student. Such a course might in some colleges be combined with one in Russian history and institutions, but this is to cramp both subjects. Russian history should be studied intensively, of course, by any students of the Near East. Then, again, it should be preceded by one course at least in general European history, and, if possible, by a course in European governments. Such a strong European background is absolutely essential. Courses in transportation, commerce, government, modern languages, and the like might profitably be pursued simultaneously with one on the history of the Near East, to mutual advantage.

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THE FAR EAST AND AUSTRALASIA.

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The traveler or sojourner in a foreign land will profit from his visit in proportion to his preparation to make the most of his opportunity. The man who knows nothing about the people with whom he comes in contact, their history, the rise and development of their institutions, will move among them as it were with a film over his eyes. And in no part of the world is it more important for the American business man or Government official to be familiar with the life of the people than in the Far East. Because we possess a European civilization we find much that is easily intelligible as we travel in Europe, in South America, or in Africa, where all the lands are under European control. Moreover, in high school and college the history of European States is offered to the students. But in Eastern Asia, as well as in Turkey and Egypt, the American comes in contact with ancient civilizations which present few points of contact with his own, except in so far as they have been modified in the recent years of European intercourse. In India and Indo-China, the East Indies, China and Japan, the American can not interpret native life in terms of his western experience. He must know something of the history of the people and their civilization. This can be obtained best through study. Rarely does a man on the ground have time for thoughtful reading, although he acquires a mass of detailed information through experience. It should be the duty of the American college to offer instruction which may help such students as enter the foreign trade or the Government service to understand the new environment in which they must serve.

Australasia presents a far simpler problem. There, in Australia and New Zealand, the American finds a purely British people engaged in mastering a continent, as the people of the United States and Canada have done and are doing. The civilization is British, modified by certain local natural conditions. The history of the people is economic and social rather than military and political. The American who knows English history and is familiar with modern social and industrial progress can easily follow the development of the British people of Australasia.

A college course in these fields, designed to meet the needs of Americans who are to serve abroad, may be worked out in several ways. A program, which has been in use for 14 years, is much as follows. The countries of Asia, from the Indus River to Bering Straits, are treated in one course, and Australasia in another and much briefer one. In the former course, a brief historical back-

ground, with reference to the development of the political, economic, social, and religious ideas of the people, is presented. Then, in connection with the European possessions in the Far East—India, Indo-China, Netherlands India, Siberia—a careful study is made of the way in which the conquest or occupation was effected. This calls for a special study of the rise of the British Empire in India. In dealing with the independent states of China, Japan, and Siam, the emphasis is placed upon the events since the establishment of treaty relations and open commerce with those nations, in the middle of the nineteenth century. As the discussion advances into the more modern period, the consideration becomes more detailed. Special emphasis is laid upon the development of foreign rights under successive treaties, and upon the growth of foreign trade. The course will need a certain amount of readjustment every year in order to allow for a consideration of the most recent events, such as, for example, the Sino-Japanese negotiations, the Far East in the World War, the Lansing-Ishii notes, and the Washington conference.

Such a course should be offered primarily for upper classmen. The student will profit most from it who has taken courses in European and American history and can correlate events in east and west. A study of unfamiliar peoples, customs, and institutions, calls for a certain maturity of judgment which a freshman rarely enjoys. As a preparation for foreign service, it should be taken as near the close of the college course and the beginning of overseas employment as possible.

A course, as outlined, should be allowed at least three hours a week for two semesters, or five hours a week for two quarters. If it is desirable to confine the consideration to eastern Asia alone, omitting India, Malaya, and the East Indies; then one semester or one quarter would suffice. But if thought is given to the vastness of the area to be covered, the many States and peoples, the two great civilizations with which the average student has had no contact whatever, and the potential importance of eastern Asia in the future, then as much time will be given to this subject as to any of the major courses in history offered by the institution.

In the case of Australasia, a two-hour course for a semester, or three hours for a quarter, would suffice. This would give time for a study of the history of the two regions, and for a study of the political, economic, and social life of the people to-day.

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POLITICAL HISTORY OF THE UNITED STATES.

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For practical use in the field of foreign trade and business the background of American history must include two main groups of facts, (1) the underlying historical ideals that form the basis of political discussion, and (2) the application, during the last half century, of these ideals to the changing world in which we find ourselves. It is not possible to understand the present without constant recurrence to the ideas and events of the last three centuries; and it is equally impracticable to use to immediate advantage the history of the United States prior to 1877 unless the connecting links between that year and the present are clearly seen.

The history of the colonial period and the constitutional period to the close of the Civil War presents a picture without a parallel of a people reduced to the simplest terms, pushing their organized life across a continent, and striving in their agencies of government to meet the problems raised by their daily existence. The big problems that were met and solved were those of—

(1) A practicable freedom; for farmers working alone, or in small groups, were free in fact, and there was neither existing power to bring them into subordination nor desire on their part to surrender liberties.

(2) A basis for representation, in solving which they had no option but to dwell upon the equal rights of similar areas or groups in determining their common destiny; and which forced them to drift away from any workable basis that the British Empire could understand.

(3) A compromise between local freedom and central control, which was reached when the 13 colonies formed themselves into a Federal Republic of enumerated powers.

Democracy, representation, and federation, as thus enumerated, contribute all the basic ideas to the history of the United States. On top of these, the colonial period takes its true proportions, giving the opportunity for democracy to take shape in the wilderness and ripen into self-consciousness.

The American Revolution in its relation to representation has always been regarded as a consequence of the different experiences of the British peoples astride the Atlantic. We are now coming to see in it more and more of the reaction of frontier democrats against a society whose doors were nearly closed and whose social layers had become stiff and impermeable. The democratic revolutions that elected Jefferson in 1800 and Jackson in 1828 were only repetitions of the original concussion that rent the British Empire.

The growth of a National Government in America between its inauguration in 1789 and its survival in the Civil War provides the details for the study of federalism. In a simple people the place of any Federal Government was necessarily that of judge and soldier and tax collector. The really important personal matters were local in character; and just as our colonists detested taxation without representation, their border-state grandchildren disliked to be subordinated to absentee control. The States' rights principle came to them at this point, and for 80 years we see a gradual evolution, as society became more and ever more complex and as relationships became too broad to be controlled by any State.

Before the death of John Marshall the law had been provided for as broad an extension of national powers as necessity might dictate. Slavery and territorial control, and land and railways then proceeded to dictate that necessity, until at last the balance was swung, in the sixties, from a Federal Government prevaillingly local in emphasis to a National Government encroaching of necessity upon local powers.

In the groups of facts related to these processes we find the whole vocabulary of political debate in America. No American trader, at home or abroad, can call himself informed unless he understands these facts in their correct settings and relationships. Nor can he use his information to best advantage unless he sees, in much greater detail, the steps by which the new Nation has broadened its ramifications since the Civil War, though ever preserving its organic connection with the fundamentals of democracy, representation, and federalism. The whole world to-day can have from this phase of our history more that is full of promise for international reconstruction than it can from all the rest of history.

In the 40 years just past an industrial society has replaced an agricultural, bringing with the change alterations in kind and quality that are not yet appreciated. Freedom has ceased to be a matter of little law, or none, as Jefferson wanted it, and has become a matter of much law and wise law. In a crowded world the right to be free is matched by the rights of others to be let alone. The police power has arisen to abridge rights that ran unquestioned in the open farms. Our States have been made over in the process of meeting these needs, while the National Government has unfolded power after power.

Political history must deal with new varieties of facts because of these changes in the nature of government and can not be prevented from taking on an economic and social aspect. The tariff, the currency, banking, railroad and corporation control, and social legislation have all crowded into the halls of internal politics, while the subject-matter of international relations has become each year more completely a problem of trade relationships.

The American abroad needs to know the relation of his country to all those currents. He needs to see how a tariff in the United States, perhaps, may curtail an export business in a neighbor country and by reducing its people to indigence cut off their buying power so greatly as to stop their imports from a second neighbor, whereby, through the double cessation of trade, a third power

may find its ships lying empty and unneeded at its docks and its shipyards no longer able to buy the steel and iron of the American miners. The world has become complex—so complex that only an historical interpretation, reinforced by all that economics and sociology and political science can add, can hope to clear its tangles. But now, as never before, there is the hope that in the next generation the world will meet its problems with science and sincerity, and may find in our history some clue to the interactions of jealous autonomy and common interest, of private freedom and public efficiency, that may make it easier to promote the next great step toward international cooperation.

For general reference purposes in American political history there is no better guide than A. B. Hart's *The American Nation, A History*. In the 28 volumes of this cooperative work may be found not only the essential facts of history, but useful classified bibliographies on all important topics. For class use the four small volumes in the *Riverside History of the United States*, by Profs. Becker, Johnson, Dodd, and Paxson, cover and interpret the whole period. Useful textbooks for the period since the Revolution are C. R. Fish's *National Development*, and F. L. Paxson's *Recent American History*. With these works as a base it is possible to conduct the course in American history at any place in the college course, but with particular advantage later than the freshman year. In many universities general American history is a basic course for sophomores. If two years can be given to the subject, the second course may well be restricted to recent American history and come in the senior year. For the best advantage at any point the course or courses must be thoroughly coordinated with the basic courses in political economy and government.

COMPARATIVE POLITICAL INSTITUTIONS AND POLITICAL HISTORY OF FOREIGN COUNTRIES.

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That persons preparing for employment in foreign trade should be familiar with the political systems of the principal nations and with modern political history is eminently desirable; for admission to the foreign service of the Government such training is indispensable. Obviously there are here two subjects: (1) Comparative government and (2) political history. Under the severest limitations that can be adopted, both are, in subject matter, very extensive; and, although interrelated, they may be taught to best advantage separately.

Instruction in comparative government should be based upon, or be so planned as to convey, a thorough understanding of the political institutions of the United States. State and local government call for relatively little attention. But the Federal Government must be known in detail—the nature and limitations of its powers, the processes and effects of legislation, the operation of the courts, and especially the organization and workings of the administrative system. The treatment of the subject in the usual courses in civics in the secondary schools will not suffice. On the legal and administrative sides particularly, the candidate must carry his study considerably further.

Grounded in American Government, the student must be made familiar with the political institutions of other nations. What foreign Governments will be studied must depend somewhat on the amount of time available. The English Government must, of course, be included. The French and German systems are hardly less important. The political scientist pays much attention to the Swiss

system, but for purposes of foreign trade and foreign service the native land of the initiative and the referendum may be largely ignored. The Italian, Dutch, and Scandinavian Governments can be surveyed very briefly. And a small amount of time should be reserved for Japan and Latin America.

The study of these Governments should be primarily descriptive, but with a good deal of comparison. The first requisite is that each political system shall be understood as an entity—its origins and growth (briefly), the structure of the executive, legislative, and judicial machinery, the divisions and limitations of powers, current problems of reform or reorganization, the character and influence of political parties. Wherever comparisons can accurately be drawn, they are likely to prove illuminating. The composition of legislative bodies, the working of cabinet systems, the control of the central authorities over local government, the suffrage, committee systems—these and many other things can advantageously be viewed on comparative lines.

The field of political history is so enormous that it becomes a matter of considerable difficulty to mark off the portions that are most essential to students of the type under consideration. A working knowledge of the general history of the United States must be assumed. Beyond this, the principal need is familiarity with the political history of modern Europe. If the student can be given systematic instruction in European history from the period of the rise of the modern nations, so much the better. But at any rate his studies must cover European national and international developments since the era of Napoleon, and, with special fullness, since the Franco-German War. He should be familiar with the main currents of domestic history of at least a half-dozen of the leading nations, and with the larger phases of diplomatic and military history. He can not be too well informed on the national policies, the party programs, the great pieces of legislation, the industrial and commercial methods and achievements, of the decade preceding the World War; and it does not require argument that he should know the history of the war, and of its reactions upon national conditions and policies, in all of their more striking phases. Outside of the European field, the political history most worth giving time to is that of the Far East (especially China and Japan) and that of Latin America, chiefly the "A. B. C. Powers."

The most desirable allotment of time for the two subjects of comparative government and political history is a year to each, that is, a year course, with not fewer than three class exercises a week. Next to this would be a year for political history and a half-year for government. After this, a half-year for each subject. Finally, it is possible to handle the two subjects together, in a year course or, in what must be a painfully inadequate fashion, in a half-year course. A combination course would, presumably, be in the main political history, with parenthetical surveys of the important governmental systems. Whatever the time given these subjects, the courses should be taken only after the student has attained a fair degree of maturity, normally by persons in the junior and senior years of our college and universities.

No single method of presentation is under all circumstances to be preferred. A judicious combination of lectures and class discussion (with frequent written exercises) is likely, in most cases, to give best results. Whatever the method in the classroom, much stress must be placed on the student's reading and study. Approximately half of this reading should take the form of definite requirements made of all students in the course; the remainder should be selected by the student, in accordance with his interests and tastes, from books and other materials recommended by the instructor. There is much advantage in requiring each student to make an intensive study of a comparatively small but important topic, with a view to a written report or thesis.

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DIPLOMATIC HISTORY OF THE UNITED STATES.

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The importance of the study of the diplomatic history of the United States, in training for a career in foreign commerce is obvious, for what is our

diplomacy but the dealing of Americans with foreigners? Exactly the same problems of differing national characteristics and points of view have confronted our diplomats, as daily confront our merchants. The same principles, the same methods, mean success for the one, as for the other.

Nor is it probable that the subject need be handled in any special way for students intending to go into foreign trade. The fundamental principles of bargaining by men responsible to others are always the same. The nearer one gets to what is fundamental in agency, and the handling of unfamiliar sensibilities, and the harmonizing of conflicting interests, the nearer one gets to what is valuable to any man engaged on the mercantile side of business, foreign or domestic, and the nearer one gets to what is fundamental in diplomatic history.

One distinctive advantage of diplomatic history over other fields for teaching purposes is that the actual human handling of cases can be studied with greater minuteness. We can see men actually about the council table, can follow the argument as it goes backward and forward, and often know what the contestants thought about when they went home that night. This is an opportunity which one can not afford to miss, and the purpose of the teacher should not be a smooth, proportioned survey of the whole. Of course there are facts that all should know, and general tendencies are of the essence of the thing taught. In spots, however, there should be enough time and emphasis to bring out every detail of the picture, while connections and setting may be impressionistically sketched in, provided that one remembers that impressionism is art and not chaos.

The effort should be made to so select the leading episodes as to show Americans in negotiation with a variety of nationalities. Individuality must not be neglected, for its importance and the importance of a man's knowing himself, and adopting the method suited to his personality, can not be over-emphasized. Yet characteristics that are prevaillingly American, or Spanish, or Japanese, can be made strikingly apparent, and are permanently a factor.

Naturally, diplomatic encounters should be so handled as to bring out as far as possible the permanent relationships between the United States and the several nations of the world, for in most cases the causes of diplomacy are the causes of business. Of course this is not always the case, for much business flows without producing any international commotion. Consequently, careful attention should be given to the structure of ordinary diplomatic relationships, the working and changes of our State Department and diplomatic and consular services, through which this stream of noncontentious intercourse is kept smooth. On the other hand, many sensational diplomatic episodes that filled the press for a time may be scantily mentioned or altogether neglected, if they proceed from purely accidental cause. Yet enough such cases should be handled to show that accident, or apparent accident, has significance.

A course in diplomatic history should not be a course in international law, but it involves a familiarity with it, and an understanding of its fundamental principles, in much the same way as does the life of a merchant dealing with foreign countries.

Personally I began by giving an all-year course of two hours a week. This ran over the whole field of our diplomacy. In the revolutionary period emphasis was centered on diplomatic method; in the period of the Napoleonic and Civil Wars, on international law. The clash of unconscious national tendencies was brought out in connection with the expansion of American territory, particularly between 1830 and 1860. The Monroe doctrine and its corollaries make a logical story about which to unfold the course of American policy, and our modern Caribbean and Far Eastern policies form a transition from the old to the new.

With the beginning of the recent war I have treated the subject in a three-hour, one-semester course, leaving out the expansion movement, and devoting the whole time to the technique of diplomacy and evolution of American policy.

It has been my experience that the subject matter of the course, the handling of legal concepts, long-continued policies, and particularly the fundamentals of human contact in negotiation, make it too advanced for sophomores. Juniors and seniors succeed according to their ability. On the other hand, maturity is relatively more important than special training, and I have not found that students without historical background are under any greater disadvantage than they are in any advanced course.

A course in diplomatic history is best given by lectures, textbooks, and occasional quizzes. If the lecturer tries to give all the tissue of connecting incident, it takes up so much time that there is not sufficient opportunity for interpretation. On the other hand a textbook can scarcely give the detail necessary to get the full value from the personal side of the negotiations. Without quizzes, the precision of conception necessary to appreciate the legal points is not apt to develop. The student also should have an opportunity to use the sources. Almost any collegiate library contains the basic government documents, and the works and lives of the leading American diplomats, such as Franklin, Jay, the Adamses, Seward, and Hay, as well as some foreigners. No one should be allowed to escape some contact with these men.

Two popular misconceptions have tended in the past to cause the public to neglect our diplomatic history. In the first place, most men of present-day affairs have long held the belief that our foreign relations have been without coherence or significance. A moment's thought should convince them that events at least must have had a trend, and that of infinite significance to our everyday life. A little study will convince them that the ablest men of the Nation united their wisdom to form a logical policy for dealing with our international relationships; that not only have our foreign relations been vital to us, but we have had a diplomatic record of which to be proud.

The second reason for our neglect to study this aspect of our life has been because Americans have lived convinced that we had full employment for our energies at home and should so employ them. The very fact of our lack of interest in our national diplomacy has a close relationship to our failure in the past to grasp our full commercial opportunities in other lands. Interest in and knowledge of the one is largely dependent upon that of the other, and a study of our foreign relations and the development of our foreign trade logically should go hand in hand.

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THE FOREIGN RELATIONS OF THE UNITED STATES.

By JOHN H. LATANÉ,

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"A democracy which undertakes to control its own foreign relations ought to know something about the subject."—ELIHU ROOT.

Prior to the Spanish War and the acquisition of the Philippines only casual attention was given by the American public to the foreign relations of the United States. The Monroe doctrine defined our Latin-American policy, while the tradition of isolation had been so rigidly adhered to that we gave little heed to what was going on in other parts of the world. The threatened partition of China, the announcement of the open-door policy, and the participation of American troops in the relief expedition to Peking in 1900 brought us for the first time into the full current of world politics. Our diplomacy, which had hitherto been concerned exclusively with American questions, now became exceedingly complex; and our historic policy of isolation, still cherished as a tradition, ceased to correspond with the actualities of international relations. Our entrance into the World War in 1917 was the natural and inevitable consequence of our position as a world power interested in the same degree with other powers in matters which concern the peace and welfare of the community of nations. Questions of foreign policy will undoubtedly be among the most vital issues of the future, and the study of our foreign relations must be given a place in the curriculum of every American college and university.

The whole subject of American history needs to be taught in a broader way, so as to be brought into more vital relation with world history. The method hitherto employed of treating it solely from the American point of view, as a

detached and isolated subject, has helped to accentuate our feeling of political isolation and has made us to a greater or less degree blind to the duties imposed upon us by membership in the community of civilized nations. But a change in viewpoint and method in the general courses in American history, while highly desirable, is not alone sufficient. Diplomatic history, in order to receive scientific treatment, must be taught in a separate course. It must not be presented, after the manner of certain even recent textbooks, as a collection of interesting incidents. It is a subject which is capable of being treated systematically, and it can be taught to advantage only in close connection with the subject of international law.

There is a difference of opinion as to whether international law or diplomacy should come first in the college curriculum. International law furnishes the principles, and diplomacy the incidents and cases. Diplomatic history should, therefore, if the inductive method is to be followed, either come first or be accompanied by a course in international law. The course in diplomacy should be preceded by a course in American history. In most college courses American history comes as an elective in the third or fourth year. If courses in diplomatic history and international law are to be introduced, American history should fall in the third year, and diplomacy and international law in the fourth. In the fourth year two arrangements are possible; parallel courses in diplomacy and international law running throughout the year, or, if time can not be found for two courses, then a course in diplomacy during the first half-year and a course in international law during the second half-year.

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CONTEMPORARY INTERNATIONAL RELATIONS.

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The study of international relations deserves much more attention in our universities, colleges, and even in the public schools than it has hitherto received. Prior to the outbreak of the World War, instruction along these lines was so scant as to be scarcely worth mentioning. Hence our profound ignorance of the causes of the struggle and of the issues involved. In the public schools problems of foreign policy like the Monroe doctrine may have received some consideration in the course on American history, but they were dealt with in strictly historical fashion, and it is to be feared that there was little discussion of present-day problems or tendencies. It is possible that questions of international interest were occasionally discussed in connection with current events, but necessarily in a fragmented and superficial manner.

In our colleges, and even in our universities, conditions were not much better. Frequently a course in international law was given, but, speaking relatively, in only a few of our universities have advanced or more complete courses in this important subject been offered. Courses in American diplomatic history have usually formed a part of the university curriculum, but little attention has been paid to European diplomatic history or to our relations with the Far East. Consequently, the ignorance of even the educated American public has been much greater on international than on domestic questions.

Since the outbreak of the World War there has been some slight improvement in respect to the study of international relations. At least courses on the "causes of the war" have come into vogue, and instructors in European history seem to be more alive than formerly to the importance of the period since 1870.

Nevertheless, there appears even yet to be a very inadequate understanding of the importance and scope of international relations. It does not seem to be clearly realized that international law forms a relatively small field in the far vaster area of international relations, where motives of policy and national interest are apt to prevail rather than standards based upon legal or ethical conceptions.

The writer is also convinced that our so-called knowledge of international relations usually rests upon too narrow a basis, or is derived too exclusively from official or diplomatic sources. Official documents are excellent material in their way, if properly interpreted. They are, indeed, indispensable, though not always trustworthy. But they only furnish keys to a few of the doors which we wish to open.

A knowledge of international relations should be based upon a study of realities, a proper sense of which is often strangely lacking in diplomatists. The great modern journalists are often much safer guides.

Ideally speaking, the student of international relations should have both a comprehensive and intimate knowledge of all nations and peoples, including, of course, his own. His first need, perhaps, would be an insight into the national psychology of the peoples or nations he is studying. Then he should have a knowledge of their intellectual as well as material resources, their trade relations, their history, industrial and political systems, etc.

But since "art is long and time is fleeting," the student must perforce content himself with a more modest program. He will perhaps do well, at first at least, to confine himself largely to a study of national policies like those of the Monroe doctrine or the "Open door," to international problems like those of sea power or the freedom of the seas, and to the causes of war, with a view to discovering remedies or preventives. The most essential knowledge of all relates to national interests and policies and to our relations with our real friends and neighbors.

Too much stress should not be laid upon mere geographical contiguity or continental isolation. Thus, our relations with the A. B. C. powers (Argentina, Brazil, and Chile) are important, but not as important as are our relations with Canada, the countries of western Europe, or with the peoples bordering on the American Mediterranean, i. e., the Gulf of Mexico and the Caribbean Sea.

As an illustration of the courses which might be offered, attention may perhaps be called to the work in contemporary international relations offered at Indiana University during the past few years.

Since the outbreak of the World War an imperfect attempt has been made to fill in to some extent this great gap in our curriculum. In addition to the former course in international law, there have been offered courses on "The causes of the war," "European international relations," "Problems of the Far East," "Problems of American foreign policy," "Our relations with Latin America," and "America and the war."

As to scope and method of treatment, it may be said that two or three hours during a semester have usually been given to each subject. Naturally, there is an almost complete lack of textbooks. The lecture method of instruction, if used exclusively, is neither practicable nor desirable. Consequently, if the classes are not too large, the seminary method of study and instruction seems best adapted to the situation. The student is given assigned readings and reports, and these assignments are made the basis of discussion in the classroom. To insure logical arrangement, outlines of the reports should always be written on the blackboard. At the end of the semester a thesis (with outline, bibliography, and marginal footnotes) on some particular topic may be required. An intensive as well as extensive knowledge of the subject is thus obtained. The members of the class as a whole should be required to purchase at least one book, and, if possible, several books, which should serve as a basis for general study and discussion.

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THE STUDY OF AMERICAN DIPLOMACY, TREATIES, AND FOREIGN POLICY.

By A. B. HART.

Professor of Government, Harvard University.

Two types of learners come to drink at the Castilian fount of diplomatic procedure and history—the man who studies by himself, and the man who has the opportunity of systematic advanced instruction. The approach to the desired goal necessarily differs in the two cases. The college man is piloted from the beginning to the end of his voyage; the self-worker can accomplish nothing unless he has the propelling power necessary to drive him through written materials and discussions, and the habit of putting his results together in a consecutive and logical form. He must somehow get into his mind, for himself, an analysis of the subject with which he is dealing.

This is a hard task without some sort of preliminary guidance. The best way to begin is on a systematic book, not too technical, dealing with international law, such as A. S. Hershey, *Essentials of International Law*; or Wilson and Tucker, *International Law*; or T. J. Lawrence, *Principles of International Law*; or W. E. Hall, *International Law*. It is a good practice to go through such a book, pencil in hand, underlining significant words and phrases and setting down comments and queries in the margin.

The American student is bound to take special account of the principles adopted and applied by the State Department and by American jurists. He needs, therefore, to be acquainted with the leading cases, particularly those of the Federal Supreme Court. Convenient material is now provided in the handy collections of select cases particularly Cobbett, *Cases and Opinions on International Law*; J. B. Scott, *Cases*; L. B. Evans, *Cases*. Many important topics may be found in the *Cyclopedia of American Government* (use the cross references).

One of the main materials for international law is treaties; and the standard edition of United States treaties edited by W. N. Malloy, in two volumes, and the additional volume edited by G. Charles, are easily available.

For the Diplomatic Service a knowledge of American diplomatic history is of course indispensable. The student who is working by himself should therefore read with care and attention diplomatic stories of America, of which C. R. Fish, *American Diplomacy*, is the best for the purpose, inasmuch as it is written with broad knowledge and appreciation of the student's needs and difficulties. This may be supplemented by reading the diplomatic chapters in *The American Nation*, a history which in the twenty-seventh volume of text brings the narrative down to 1917. Nearly every volume contains chapters on diplomatic history, which taken together make a consecutive narrative. An absolutely indispensable parallel volume is J. W. Foster, *Practice of Diplomacy*, which is based on the author's long experience as a diplomat.

More detailed studies of particular questions in international law and of specific episodes in American diplomatic history can readily be found through the brief articles in the *Cyclopedia of American Government* and their references; and through Canning, Hart, and Turner, *Guide to the Study and Reading of American History*, with elaborate bibliography of the earlier and especially recent diplomatic problems. A. B. Hart's *Foundations of Foreign Policy* includes a list of authorities in American diplomacy down to 1901. In A. B. Hart, *American History, Diplomacy, and Government*, will be found at sections 64-95 a set of 90 topics, with brief outlines and specific references; also at sections 166-196, a set of 30 special topics with more elaborate references.

The young man who has the opportunity of college and university courses in international law and diplomacy has the broader opportunity of fitting his work in with other fields, in a sequence of formal courses. The first necessity—this applies also to the self-preparing young man—is good grounding in English composition, including the declining art of spelling. The ordinary processes of arithmetic are useful to any public official, and a thorough knowledge of geography, physical and political, is essential. Somewhere in the course should come a study of French, Spanish, and German sufficient to enable the student to read books and newspapers in those languages with ease; and also to possess a speaking knowledge of at least one. It is of prime importance that the future consul and diplomat should be able to understand what the other fellows are doing.

Of course, the future diplomat will make himself familiar with the history of Europe and of the United States, so as to know what has been going on in the big world of which diplomats take notice; and so as to trace the development of international law and the difficult present questions of territory, trade, colonization, and national influence. Excellent instruction for reader and student are C. D. Hazen, *French Revolution, and Europe since 1815*, or Carlton Hayes, *Political and Social History of Modern Europe*; J. S. Bassett, *United States*, adds special courses on Russia, Latin America, and the Orient, fields in which future diplomacy is likely to be particularly vivid.

A formal course in international law should come in the second or third year of a college course, on top of and alongside the narrative historical courses. A good parallel is a course in American constitutional law or in comparative government. Later in the college course the student must take advanced and special courses in international law and diplomatic history. He should not fail to study the history of trade and commerce. At least one systematic course in economics should be taken.

In these courses, especially those on international law and diplomacy, the student should do abundant written work. Nothing is more useful to a public man than facility in getting up and clearly presenting information on a specific subject. It is very desirable to write at least one elaborate thesis on some one topic in American diplomacy requiring the application of principles of international law.

All this class work should be supplemented by good private reading in history, government, and diplomacy. Read lives of practiced diplomats, such as William E. Seward and John Hay, and reminiscences of men like John W. Foster and Andrew D. White, to reveal the inner workings of the State Department and the embassies.

The self-teacher and the university man alike must form the habit of bringing themselves to book, by making brief abstracts of the volumes that they handle, by framing outlines of important subjects with which they deal; by submitting six such examinations and tests as are possible; by trying to bring together into one group their remembrances and thoughts, so that whatever they may read, study, or think about will bear upon their main subject of study.

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COLONIZATION AND COLONIAL POLICIES.

By G. F. ANDREWS.

Preparation for colonial service is not merely a matter of training young men for official positions in the foreign possessions of the United States, and for service in developing the commercial interests of these possessions; there is also urgent need of men in consular posts and in commercial enterprises, who by their previous training are qualified to advance the commercial interests of the United States in the possessions of other powers. New outlets for the products of our factories must be found, and new sources of raw material developed, if we are to hold and increase our share of prosperity.

Some light on the subject of what special preparation is needed may be found in the experience of the great commercial and colonial powers. Great Britain, France, and Holland have been principally concerned with training men for service in their own possessions. Germany, with foreign possessions offering a field of activity for only a limited number of Europeans, has been concerned with the problem of securing the trade of the possessions of other powers, and in this she has been notably successful. This has been due, in no small measure, as English authorities frankly admit, to the superior, special, practical training given in the colonial schools of Germany. On this subject Evans Lewin said, in 1914: "Conditions are changing. New nations employing new methods have entered upon a fierce competition in colonial development. * * *

The natural products of the sea and the land are being studied and exploited not only on the spot, but are also being investigated in the laboratories and schools of Europe. The economic prize is more and more likely to fall to those who have fitted themselves by a preliminary training before undertaking the rougher work of actual exploitation."

England has believed in a high degree of general education, designed solely for mental training, followed by some study of colonial subjects (languages spoken by natives of her possessions, colonial law, history, etc.), supplemented by lectures on colonial administration, hygiene, medicine, etc., academic rather than practical in character, and this followed by practical training during a period of apprenticeship in the colonies.

It is generally admitted that these methods no longer suffice and that preparation in France and Germany is now superior to that given in England. A new colonial college¹ is proposed for practical training. The following headings show the subjects which it is thought should be taught:

A. Theoretical course:

1. British colonial history—History of foreign colonies.
2. Colonial law—(a) Commercial law—(b) Native law and customs—(c) Administration of the Empire.
3. Ethnology—(a) Comparative religions—(b) Languages.
4. Geography of the Empire—Climate.
5. Sociological and political conditions in the dominions and colonies.
6. Theory of the Empire (comparison with other empires).

B. Practical course:

1. Tropical hygiene.
2. Agriculture—forestry—commercial botany.
3. Commerce and industry of the Empire.
4. Conservation of resources.

Preparation in Holland offers no important suggestions for this brief statement.

France has three notable colonial schools (supplemented by important lectures given at the Sorbonne and under the auspices of the colonial societies).

A. École Colonial (Paris). (Two-year course open to French and natives of the colonies and dependencies.)

Subjects—Practical administration—colonial law and languages—history and geography—ethnology—hygiene—colonization, etc.

B. École Pratique Coloniale (practical commercial education).

Courses in hygiene, history, geography, administration, etc.

C. Institut Colonial de Marseille (two-year course).

1. Study of vegetable, animal, and mineral products.
2. Commerce and colonization.
3. Hygiene, climate, agriculture, etc.

Germany also has three important schools:

A. Hamburgische Kolonial Institut (special training for business and commerce, as well as for colonial officials).

B. Deutsche Kolonial Schule (practical colonial training).

C. Seminar für Orientalische Sprachen (purely theoretical). Courses in languages, administration, economics, and advanced science.

We Americans may well take to ourselves the words of Evans Lewin: "We Britishers know to our cost that where Germans have outstripped us they have done so by virtue of superior educational facilities," and we may add "and others" to Germans.

The industrial development of Germany was, to a considerable extent, based on an investigation of the sources of raw material in the colonies of other powers. The palm product trade of Dahomey is controlled by Germans, and we buy from Hamburg second-grade palm oil, extracted in Germany from kernels

¹ See Evans Lewin—The Germans and Africa.

imported from the French colony, and palm oil is a product of increasing importance in this country. The important trade in hides, in India, is controlled by Germans who have studied India and the trade to some purpose.² These are but instances of German enterprise backed by careful preparation.

In suggesting a course for preparation for colonial service, it is assumed that the student has taken subjects offered in a general course of preparation for foreign service, modern languages, commercial and maritime law, etc., modern history, diplomatic and political history, foreign exchange, etc. The colonial course should, therefore, be offered to seniors, and possibly to juniors. It is, of course, highly desirable that the student should have some knowledge of the principal language spoken by the natives in the colony where he intends to serve. A satisfactory course should extend over two half years, but could be covered with considerable profit in one half year, three hours per week, if some subjects included in the suggested plan were covered in usual courses in history, economics, etc., and such subjects as hygiene, tropical medicine, etc., were taken up in special lectures.

A course proposed for preparation for colonial service:

- A. Outline history of colonization (with special reference to modern times).
- B. Present systems of colonial government, including dependencies (with particular reference to the possessions of Great Britain, France, Germany, and the United States).
 - 1. Colonies for colonization.
 - 2. Colonies primarily for commercial development.
- C. The relation of the colony to the mother country. The question of trade following the flag.
- D. The future of colonies, as affected, for example, by the character of the population, by climatic conditions, etc.
- E. The question of colonial self-determination in respect to form of government and policies.
- F. Investigation of representative colonies:
 - 1. Nature of products and probability of increase.
 - 2. Nature of imports—what goods not now imported should find a market in the colony under discussion.
 - 3. Tariff system and special local charges on commerce and business.
 - 4. What opportunity appears to be open to the United States as buyer or seller.

How would local discrimination in such matters as banking and shipping facilities affect trade with the United States?
- G. Hygiene and tropical medicine.
- H. Foreign possessions of the United States:
 - 1. History of the foreign possessions of the United States.
 - 2. Analysis of conditions in each of the possessions.
 - (a) Administration.
 - (b) Population, language, customs, laws.
 - (c) Products, imports, exports.
 - (d) Growth of commerce—commercial relations with the various countries.

The suggestion that some of these subjects could be treated by extending other regular courses is possible but certainly not desirable; they should be studied in their relation to each other, and this can not be done if the student gathers his knowledge bit by bit from courses not directly concerned with colonial questions.

Textbooks could not be used to advantage. The student should have access, at least, to a small, well-selected library on colonial questions. But most of the works should be found in any well-equipped college library.

² It is interesting to note that in 1912 and the first six months of 1914 Germany enormously increased her imports of hides from India.

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MODERN INTERNATIONALISM.

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The term "internationalism" has been found difficult of definition, and its connotation has been variously conceived for the reason that it applies to a relationship which is dual or multiple in its aspects—relationships really actual in some phases, potential in some others, concrete from certain points of view, abstract from others. Reference to the widely differing efforts of various lexicographers shows that the term is susceptible more readily of description than of definition. Dr. Faries has defined and described it effectively, as follows:

Internationalism may be defined to be that cooperation between governments or their citizens which tends to coordinate their efforts toward material betterment in the interests of the whole social order. Such * * * may be official, * * * or may be unofficial * * *. We are warranted * * * in including within internationalism that cooperation of the citizens of various nations which may fall far short of international law.—(*The Rise of Internationalism*, 12-13.)

A reasonably satisfactory short definition appears in Webster's International Dictionary, 1913: "Internationalism—international organization, influence, or common participation."

Internationalism has its political manifestations, its economic manifestations, its occupational, its cultural, its social, its humanitarian, and its purely sentimental manifestations, some formal, some informal, some accidental and scarcely to be observed. Organization, effort, thought, which goes beyond the boundaries of a single national state becomes international; the more consciously, deliberately, and widely it goes, the more evidently and conclusively does it belong within the connotation of the term "internationalism."

In presenting this subject to any class, the first problem to be solved is that of orientation; the second is that of establishing limitations. The great difference in the backgrounds of different groups and the unevenness in the preparation of the individuals composing any given group challenge the perception and the skill of the instructor. Under ideal conditions there would be, prerequisite to taking this course, preparation in general history, the principles of economics, the elements of political science, of sociology, and of psychology; also, highly desirable, a knowledge of comparative government, constitutional law, and international law. This list might be expanded; but, brief as it is, few students will have the point of departure which it suggests, and some will have little knowledge of any of those subjects.

In the attempt to treat the subject with due regard to the preparation and needs of the average class and within the time limitations of, say, 30 periods of 50 minutes each, it is desirable to have a definite and formal plan of procedure. To keep the furrows straight and at the same time cover the field within the allotted number of periods, this is absolutely essential. The invitation which the subject gives to discursiveness, abstraction, and mere speculation must at no point be accepted. The instructor should demonstrate by his arrangement of materials and handling of discussions that the subject is of vital and practical, not merely academic and cultural, interest.

A working outline for such a course, susceptible of modification, especially of omission, may include the following subjects:

- I. Introduction and elementary concepts.
- II. Nations and the family of nations. The growth of social consciousness and of political and legal practices.

III. The intercourse of states: Diplomacy, conferences, congresses, and treaties.

IV. International differences and methods of settlement, historical and actual.

V. Movements toward and evidences of Cooperation and Organization:

A. Deductive Pacifism—History and Characterization.

B. Inductive Pacifism—

1. Task.

2. Agencies and methods.

C. International practices, instruments, and influences—

1. International law.

2. International leagues.

3. International commissions.

4. International alliances.

5. International courts.

6. International arbitration.

7. International unions, official and unofficial.

8. International conferences and congresses, official and unofficial.

9. International movements based on community of interest or thought in connection with legislative, economic, scientific, educational, artistic, religious, social, recreational, and miscellaneous vocational and avocational activities.

10. International influence of financial, commercial, and industrial developments.

11. International influence of the development of means of transportation and communication, migration, travel, dissemination of news, and popular education.

VI. Proposed International Instruments (including leagues, federations, and a world state).

VII. Obstacles and Difficulties. Diversity of languages, race, location, and physical environment.

VIII. Problems of the Immediate Future. Diplomatic readjustment and settlement. Reconstruction—political, economic, social, physical, psychological, philosophical.

No two instructors will adopt identical outlines or employ the same methods of presentation. The following is a possible procedure: At the outset the instructor posts an extensive bibliography, containing references both of a general and of a particular nature; and he distributes syllabi in which there appear under each of the above titles references (a) to required reading, (b) to optional reading, and under some of the headings a series of subtopics and divisions. Each of the titles becomes the subject of a preliminary lecture. The earlier titles must be treated briefly, from considerations of time and proportion. At each meeting of the class an opportunity is given for asking questions and for brief discussion. After the eighth lecture a whole period or more is given to extensive quizzing and general discussion. From this point on, the burden of presentation is thrown more and more upon the students. To economize time, certain of the subjects are assigned to individual students for special preparation and organized reports, the recitation period assuming something of the character of a seminar. After the nineteenth title (C. 11) has been disposed of, the task of presentation devolves again chiefly upon the instructor.

Throughout the course it is essential to emphasize the evolutionary aspects of political and social development, to refer constantly to historical examples, to direct and redirect the attention of the student to inherent and fundamental facts. In the problems presented, human nature and human institutions are the beginning and the end; they represent what is, and their potentialities are the limitations of what may be. The student must learn to distinguish between that which is susceptible of immediate accomplishment and that which can only be achieved or consummated in time—a short period or a long. In

no other field has the instructor better opportunity to demonstrate the difference between deductive and inductive constructive reasoning, and to show in reference to political problems the futility of mere speculation and benevolence of attitude without substantial knowledge of facts and scientific respect for fundamental considerations.

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PART III. MODERN FOREIGN LANGUAGES.

THE TEACHING OF CHINESE AND JAPANESE LANGUAGES.

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The advantage of being able to speak the language of the people with whom one trades is so obvious as scarcely to need mention.

American commerce with the Far East began in 1784 with the very beginning of our national history. It is already of great importance, but undoubtedly it is destined to have rapid increase after the war. In the past it has been conducted very largely by the aid of the Chinese compradore, who has been the medium of communication between the American and the Chinese merchants.

In the good old days of Salem shipowners and clipper ships, when there was a wide margin between the price paid to the producer or the native merchant and that paid by the consumer, the commission of the compradore was not a matter of great concern; he grew rich, but the firm also prospered. In these days, however, of keen competition, the margin of profit is comparatively small, and the firm that can remove unnecessary handicaps will have an advantage. German houses doing business in the Far East began years ago to send out young men to study the languages of the countries in which they were to be located, and through these agents they have been able to come into direct communication with native firms.

Some American and British companies have followed this example. The Standard Oil Co. has given considerable attention to the matter, and the British American Tobacco Co. has met with enviable success in so training their young men in China.

It may not be desirable to get rid altogether of the compradore, especially in certain lines of trade, for he has a wide acquaintance with the merchants with whom it is necessary to deal, and he has the expert knowledge of the conditions of the trade, but the firm that can on occasion be independent of the compradore is by so much in advance of the rival company that is wholly dependent upon him.

The study of the Chinese and Japanese languages, however, is not easy, and it is more than doubtful that anyone can acquire a workable knowledge of the colloquial in either tongue without the aid of a teacher. There are, to be sure, pocket vocabularies and phrase books which a traveller will find useful and which will enable him to make known his most pressing wants, but to be able to conduct business negotiations, one must have more than this, and that will require him to get the pronunciation from the lips of another. This is especially true of the Chinese, for the meaning of a syllable in that language changes entirely with a change of the tone in which it is spoken. The meaning of the written or printed character can indeed be learned without a knowledge of the pronunciation, and it is possible therefore for the student to teach himself to read a book or newspaper, but this would be of small advantage without the ability to converse in the language. The tones can not be learned from books.

With Japanese it is different, but there are other difficulties in acquiring that language.

The American Government since 1902 has maintained classes of young men at the legation in Peking and at the embassies in Tokyo and Constantinople for the study of the languages of China, Japan, and Turkey. These young men after two years' study at the legation or embassy are sent to the various consulates of the United States in the countries mentioned to be assistant interpreters. Gradually they are advanced in rank and become vice consuls, consuls, consuls general, and language secretaries at the embassies.

The same course is adopted by the British, French, and German Governments. It has been found that a two years' course in the language at Peking or Tokyo enables the student to speak upon ordinary topics with some facility and to translate with the aid of a dictionary the dispatches passing between the American officials and those of the country to which they are accredited. But it is still necessary for them to have the assistance of a Chinese or Japanese writer to insure that their translations from English into Chinese or Japanese are without fault.

It would seem advisable, therefore, in introducing the study of these languages into American colleges and universities to require not less than a two years' course in either. The student even then can not expect to acquire facility in speaking, for he can give but a small part of his time to this subject, and he will rarely find anyone with whom to converse. Most of the Chinese in the United States do not speak mandarin Chinese and do not understand it.

Numerous textbooks have been prepared for the teaching of Chinese and Japanese. In the British legation at Peking, in the Chinese customs service, and formerly in the American legation the students were required to use the *Tzu Erh Chi* of Sir Thomas Wade. This is a work in three large volumes, published by Messrs. Kelly & Walsh, of Shanghai, and by W. H. Allen & Co., London. It gives a course in the spoken language. For the written language there is a companion volume, known as "The Documentary Series."

The students in the American legation at Peking, after some experience with Wade, made trial of Mateer's "Course of Mandarin Lessons," published by the Presbyterian Mission Press at Shanghai. This on the whole will be found more useful than Wade. This university has been using it in preference to any other available. Two objections lie against it; it is too bulky and was prepared primarily for the use of missionaries. It is therefore not so useful as it might be for men preparing for a business career. This latter objection, however, is less important than might appear upon first thought, for one can abridge the lessons and supplement them with books of conversation to be mentioned below. A smaller and less expensive book for beginners in Chinese is Baller's "Mandarin Primer," also published by the Presbyterian Mission Press at Shanghai. This, too, is especially arranged for missionaries. Other very good books for beginners are those by Sir Walter Hillier and by a former British consul, Bullock. Hillier's has been used to some extent in the American legation at Peking. "An introduction to Mandarin," in Chinese and English, is on sale in Chinese book shops in San Francisco, and is a good book for beginners. It is published in two small volumes, price \$1.50. For a study of the characters, a work in two volumes by Dr. Leon Wieger is excellent. It is called "Chinese Characters," and is published by the Ho Kien Fu Catholic Mission Press. The best Chinese-English dictionaries are those of Giles, published by Kelly & Walsh, Shanghai and Yokohama; and Williams' Syllabic Dictionary, published by the North China Union College, Peking. The English-Chinese dictionary is published by the Chinese Maritime Customs, prepared by K. Hemeling.

No matter with what book one begins, it is well to supplement it after a few months with the "Kuan Hua Chih Nan," or "Guide to Mandarin," a book of conversations, prepared by a Japanese student of Chinese, and thoroughly idiomatic. A similar work, which introduces many of the newer terms and valuable on this account is the "T'an Lun Hsin P'ien." This also was prepared in Japan and may be purchased of Messrs. Kelly and Walsh, Yokohama and Shanghai.

The student ought to begin to write the characters at the very beginning, even while giving his attention chiefly to the colloquial. At the end of two years he should be able to recognize and to write 3,000 characters. The second year he should find time to acquaint himself with portions of the Chinese classics, a few chapters from the Analects of Confucius and the works of Mencius, but for business use a study of newspaper and documentary Chinese will be of more service. Wade's or Lay's Documentary Chinese will be found good. A Chinese newspaper is excellent for this purpose. The use of particles and the method of construction are well explained by Hirth's "Notes on Chinese Documentary Style," Kelly & Walsh, Shanghai.

As intimated above, it is not so difficult to teach oneself Japanese as Chinese. For beginners there are several good books: "A Textbook of Colloquial Japanese," by Dr. Rudolf Lange, published by the Methodist Publishing House, Tokyo; "How to Speak Japanese Correctly," by K. Akada and J. Satomi, published by R. Z. Okazakiya & Co., Tokyo; "Plaut's Conversation Grammar," Brentano's, New York and Washington.

THE TEACHING OF GERMAN AND DUTCH FOR FOREIGN SERVICE.

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With the elevation of the United States of America into the front rank of a world power comes the grave responsibility of training comprehensively and efficiently for foreign service. The representatives of this Nation abroad, whether they represent the Government or stand sponsors to great commercial or industrial enterprises, should reflect honor and credit upon their country. This they can do only if, to state a minimum, they are esteemed as on a par intellectually, educationally, and culturally with those whose interests for the time being are their interests, and with whom they are expected to communicate and to transact business.

Among the educational requirements for really intelligent and successful foreign service a facile knowledge of the language of the foreign country becomes at once a fundamental demand. Without a full control of the language, one's understanding of that foreign country is made difficult, if not well-nigh impossible, and thus the function of foreign service is reduced and impaired. Interpreters and translations may become good makeshifts, but he who controls the idiomatic side of the new foreign language controls the source-head; and it is this kind of power and control that we wish our foreign representatives to possess and to be able to exercise.

But not only for practical and immediately utilitarian purposes is it necessary that our foreign representative know fully the language of the country to which he is assigned. There is, also, a larger and ideal point of view with regard to modern language instruction which it behooves us, now that America has left its sphere of parochial isolation, to consider with a feeling of sacred obligation both to ourselves and to the rest of the world. This larger function of the modern languages is nothing more nor less than its service in establishing international understanding, amity, sympathy, and good will.

This high ideal of what the modern languages should accomplish was in the minds of the reformers who set about in the eighties to vitalize the modern language instruction and thus save it from the impending fate of being crushed under the heavy weight of classic tradition. If misunderstandings are possible between persons of the same speech, how much greater is the possibility of misunderstanding between persons, or nations, of different speech? And misunderstanding is the mother of all the evils of prejudice, bias, and enmity. It appears, then, that in the large and responsible work of reconstruction, not only of immediately national affairs, but of international relations, the modern languages are called upon to do a service which is at once as practical as it is high and ennobling.

Granted this function of the modern languages in the service of international ideals making for mutual understanding and friendship, it becomes our bounden duty to encourage the study of the world's modern languages and to raise the standard of instruction in these languages to a high plane of efficiency. Our foreign representatives are entitled to the best instruction that can be given them.

What is the best instruction in modern languages for those who represent this Nation abroad? In a sentence, it is that instruction which makes for the goal of giving the student a comprehensive control of the new speech habits, and does so by using a method which is scientifically and pedagogically unsailable. At once it is clear that instruction for foreign service does not differ in fundamentals from the instruction for any other kind of service. That is preeminently the point.

Any language is, at best, a tool which when thoroughly controlled may be easily turned to any kind of service; it may serve as a key to unlock the treasure house of literary values, or it may become a function for practical ends. At any rate, without a thorough mastery of the tool, the function or service of this tool is inadequate. The recognition of this programmatic point of view can only be salutary for the future of modern language instruction. It means that thorough instruction in the language as language shall precede any attempts to use that language in its various and possible functions. The emphasis would not discourage literary values, even at an early stage in the acquisition of the new tongue, but it would insist that correct speech habits be learned and thoroughly mastered. The whole question really is one of time allotment to the various phases of learning and one of emphasis as to what discipline shall precede or follow.

The brief limits of this paper can merely state what is in the minds of progressive modern language teachers to-day with regard to how to teach and how to learn a living tongue. Axiomatically expressed it is this injunction: If German, for instance, is a living modern language, then teach it as such. The implication is that every appeal is utilized which makes for the vital acquisition and live use of the new speech habits. Not only the eye, but also the ear and the speech organs are called upon in the learning. The progressive view makes more of pronunciation than was done formerly. It frankly uses the foreign tongue in the classroom and urges the student to do so. It tries to teach the language, and not only the grammar. It insists on genuine reading of a connected text, and stresses reproductive work in the language itself rather than translation. In short, it makes every sense appeal that it is possible to make and conserves every moment possible for the use of, and drill in, the foreign language to be mastered. Then, too, in a modern language, having

to do with a modern people, the content of texts and paragraphs will deal with matter pertaining to that modern people to-day. That is to say, the customs, habits, institutions, and general life of the foreign nation will receive attention. In short, when we demand that a modern language shall be heard and spoken in the classroom, we are pleading not for the lingual facileness of a waiter or a porter, but for a discipline which more adequately and comprehensively than in the past permits us to realize the aim of modern language instruction which is and always will be the acquisition of new speech habits.

It is such intensive training in modern languages that should be placed at the command of our foreign service. We can not afford to do less. The training for modern languages should be begun in the seventh and eighth grades, with full opportunity of election throughout the four years of the high school. Only then can we hope to carry out an important mission really well and with telling results.¹

THE TEACHING OF ROMANCE LANGUAGES.

By VICTOR E. FRANÇOIS,

Associate Professor of French, College of the City of New York.

We take for granted² that for an American student preparing himself for foreign service, French, the language of diplomacy for the last three centuries, is considered indispensable.

For obvious reasons, Spanish comes a close second in importance, and we are ready to concede that it should take precedence of French in schools of States bordering Mexico, since this plan of studies concerns not only students intending to enter the foreign service, but also those anxious to pursue a commercial career.

Our choice for the third language is Italian, not because Portuguese³ is of less value, but because it is so similar to Spanish that it should be easily mastered by students who have a good knowledge of the latter.

May we be allowed to point to a few causes of the so much talked of failure of foreign language teaching in the United States?

There is no denying that there is poor material among teachers of modern languages; some are trying to teach a subject that they themselves have never

¹ What has been said applies, of course, to the teaching and learning of modern German and modern Dutch, with this comment, that of these two modern Germanic languages, the former is more important and should receive the greater emphasis in the curriculum. For German, Viëtor's *Deutsches Aussprachewörterbuch*, 2d edition, is fundamental in learning the pronunciation. For training in commercial German the following books may prove helpful: (1) Graham and Oliver, *German Commercial Practice connected with the Export and Import Trade*, 2 volumes. Vol. I (1904); Vol. II (1906). Macmillan, London. (2) Arnold Kutner, *Commercial German*, 1903, American Book Co. (3) F. Coverly Smith, *Introduction to Commercial German*, 1903, Macmillan, London.

² Some time ago a committee of well-known business men and educators, appointed by the Government of Great Britain to investigate the problem of education for those wishing to prepare for foreign trade, recommended that a much greater time be given to the study of French, French being "by far the most important language in the history of modern civilization."

³ A strong plea for the study of French and Portuguese was made by a Brazilian, Clinton D. Smith, before the Educational Conference on training for foreign service on December 31, 1915. (See Bul. 1917, No. 87, pp. 35-36. Department of Interior. Bu. of Educ.)

been able to master, and the situation is worse now than before the war.⁴ One of the greatest difficulties which American educational institutions are facing is to find well qualified teachers of French, Spanish, and Portuguese. Good teachers of Italian can be found in sufficient numbers, but school authorities are clamoring for experienced teachers of Spanish, and a real teacher of Portuguese is a *rara avis*. As far as French is concerned, we expect that the problem will soon be solved. Many alumni and alumnae of American colleges and universities have been in France for one and even two years. We hope that a large number of them will turn to the teaching of the French language. They can not fail to become inspiring teachers.

But the best teacher of modern languages is absolutely helpless as long as his classes are as large as they are: 30 to 40. The number of students in any class in the department of modern languages should not exceed 20. An average of 15 should be the rule, if good results are to be expected.⁵ Imagine a piano teacher trying to teach 30 or 40 students simultaneously how to play the piano in a short period varying from 40 to 50 minutes. One minute's attention to each boy. That is the condition teachers of modern languages are facing every day.

Another stumbling block in the path of teachers is the indifferent attitude of the average American student toward his studies. Is it not greatly due to the fact that he has not the least idea of the career he may wish to follow later in life? Whether he will pursue this special vocation or not, is immaterial. His choice of the future profession, even if vague, need not lead to a premature specialization in his studies, as some seem to fear; besides being an incentive, it would serve as a kind of beacon to guide him through the maze of his college curriculum. Having no definite aim, he gropes his way toward a general education by taking a motley combination of courses which leads him nowhere..

To remedy this defect, a thorough psychological test should be given to every boy before being admitted to a high school, and a report sent to his parents or guardian with proper directions as to the kind of studies his mental ability fits him to take most profitably.

Another serious drawback is the lack of memory training in our elementary and secondary schools. A boy with a poor memory will never become a good linguist.

Time to be devoted to the preparation of students: Schedule I obtains if a junior high school is available; Schedule II, if there is no junior high school; Schedule III, if no romance language has been studied in the preparatory school.

⁴ See the *Modern Language Journal*, March, 1918, p. 284: "On a motion of Professor Smith, of Wisconsin, a resolution was passed calling attention to the very real danger in the fields of French and Spanish due to the shift of poorly prepared and unsympathetic teachers from other branches, and expressing the section's strong disapproval of such changes being allowed by administrative officers in colleges and secondary schools."

See *Bulletin of High Points*, edited by Lawrence A. Wilkins, in charge of modern languages in high schools. Board of Education, of New York City, March, 1918, p. 14: "A teacher who gives only a portion of his time to instruction in a subject may be called a 'fractional' teacher of that subject. In the 24 high schools there are 61.97 teachers of German engaged in giving instruction in some foreign language other than German."

⁵ See an article by Henry Zick in *Bulletin of High School Teachers' Association of New York City*, April, 1916, p. 6: "I visited, in all, eight secondary schools in and out of London. All the schools I visited had four excellent features: (1) They laid stress on a good pronunciation and used sound-chords; (2) the work was properly graded; (3) the teachers had a good command of the foreign language, and (4) the classes were small, from 10 to 25 pupils."

SCHEDULE I.

JUNIOR HIGH SCHOOL.

	First language.
First year.....	5 periods per week.
Second year.....	5 periods per week.

HIGH SCHOOL.

	First language.	Second language.	Third language.	Fourth language.
Third year.....	5 periods.....	5 periods.....		
Fourth year.....	5 periods.....	5 periods.....	5 periods.....	
Fifth year.....	4 periods.....	4 periods.....	4 periods.....	
Sixth year.....	3 periods.....	3 periods.....	3 periods.....	5 periods.

COLLEGE.

Three periods for each language throughout.*

SCHEDULE II.

HIGH SCHOOL.

	First language.	Second language.	Third language.	Fourth language.
First year.....	5 periods.....			
Second year.....	5 periods.....	5 periods.....		
Third year.....	4 periods.....	4 periods.....	4 periods.....	
Fourth year.....	3 periods.....	3 periods.....	3 periods.....	5 periods.

COLLEGE.

Three periods for each language throughout.*

SCHEDULE III.

COLLEGE.

	First language.	Second language.	Third language.	Fourth language.
First year.....	5 periods.....			
Second year.....	5 periods.....	3 periods.....		
Third year.....	3 periods.....	3 periods.....	3 periods.....	
Fourth year.....	3 periods.....	3 periods.....	3 periods.....	3 periods.

METHODS.

SCHEDULE I.

JUNIOR HIGH SCHOOL.[†]

First language.

First year: Five periods per week. Pronunciation (daily training). Description of the classroom, the school, persons, animals, familiar objects, pictures representing simple scenes, common actions to bring out important verbs (present indicative, past definite, future). Maps, numbers 1-100; days of the week, seasons, months, dates, weather, time of day, the five senses, games, little songs and short poems to be memorized.

* If three languages are studied instead of four, which is likely, the periods for the first and second languages may be increased to four; if only two languages are studied, the periods may be increased to five.

[†] A detailed description of these courses is given because they are still in the experimental stage.

No formal grammar. Emphasis laid on correct pronunciation. Mostly oral work, carefully graded. The best teacher should be in charge.

If French is the first language, use such simple books as *First Year In French*, by Syms (American Book Co.), or *First French Book*, by J. Greenberg (Charles Merrill Co.), leaving the translation of English exercises for the very end of the year, if at all, or Bercy's books for children (Wm. Jenkins), pictures such as *Tableaux Muraux Delmas* (Hachette and Co., London).

If Spanish is chosen as first language, use such easy books as Worman's Spanish books (American Book Co.). The pictures mentioned above may be used for Spanish as well.

Second year: Five periods per week. Continuation of the work done during the first year along the same lines. Daily drill in pronunciation. More pictures, more maps, more games, numbers 1-1000; notions of history, geography, arithmetic, fractions, metric systems, etc.; the three kingdoms of nature, all in the language to be learned. A very easy reader, with a commercial bias if possible. Rudiments of the grammar taught from the reading. Oral exercises of all kinds also based on that textbook. Very little translation of the foreign language into English should be done except to show the pupils how to go about it. No literal translation should be allowed. Frequent dictations of short sentences, of short stories. Songs, short stories, or short poems memorized.

HIGH-SCHOOL COURSES.

Third and fourth years: In the third and fourth years (respectively the first and second years in attendance) graduates of a junior high school should be able to do the work that is done at present during the first three years in a first-class high school.

Any method suiting the individuality of the teacher and leading on the part of the pupils to thorough work and self expression should be encouraged. Whatever may be the method, the teacher should adhere to the motto: A minimum of grammatical rules and translation, and a maximum of oral work.

If formal grammar is started, it should proceed slowly, with special stress on fundamental principles and constant drill on verbs.

Translation of the foreign language into English should be done only in the case of difficult passages and idioms. A careful selection of the texts on which to base the lessons will minimize that kind of work. Translation of English into the foreign language should be attempted, if at all, only toward the end of the first year as review work. Later on easy composition may be used.

Teachers may ease their work by using textbooks provided with exercises giving material for drill work along up-to-date lines.

In the program of the first three years of high schools, books with commercial tendencies are seldom read. To fill that want, numerous dictations on the country, the language of which is learned, its climate, customs, daily life, government, general industry, commerce, etc., should be given. Proverbs and easy idiomatic sentences should be memorized.

Fifth and sixth years: So far academic and commercial courses can go hand in hand with a commercial flavor if the majority of students are preparing for a business career. Now the work should be somewhat specialized and commercial textbooks put into the hands of the pupils, with the same methods as described above prevailing. Constant oral work, much dictation by the teacher or leading pupils, a minimum of translation of the foreign language into English, etc.

From now on one hour per week should be set aside for the reading of an easy text or newspaper in the first language at sight, a student reading aloud one paragraph at a time, the teacher translating or better explaining the words unfamiliar to the class, and a second student summing up the paragraph in the language taught. Reading at sight should start for the second language at the beginning of the sixth year. This kind of work increases the confidence of the scholars and encourages independent reading.

They should also be urged to avail themselves of every occasion to improve their practical knowledge of the language in which they are interested: (a) An exchange of letters with youths of their age abroad; (b) participation in a foreign language club; (c) use of a dictionary purely French or Spanish; (d) sermons, lectures, plays, newspapers, and reviews in the foreign language; (e) acquaintance with people speaking that language, etc.

FRENCH.

Fifth year.

Notions de commerce, by Coudray and Cuxax (H. Dunod—E. Pinat, éditeurs, 47, Quai des Grands Augustins, Paris).

Éléments de commerce et de comptabilité, par Gabriel Faure (Masson et Cie, éditeurs 120, boulevard St. Germain, Paris).

At sight. *Edition hebdomadaire du Courrier des Etats-Unis*, New York City, or *Le Petit Journal*, published by Doubleday, Page & Co., Garden City, N. Y.

Sixth year.

French Commercial Practice (II parts), by Graham and Oliver (Macmillan & Co., London).

At sight. *La France qui travaille*, by Jago (D. C. Heath & Co., Boston).

or

Revue commerciale et industrielle franco-américaine, published by Le Courrier des Etats-Unis, New York City.

SPANISH.

Fifth year (if first language).

Harrison's *Spanish Correspondence* (Henry Holt & Co., New York City).

McHale's *Commercial Spanish* (D. C. Heath & Co., Boston).

At sight. Albes: *Viajando por Sud America* edited by Warshaw (Henry Holt & Co., New York City).

or

El Eco (Doubleday, Page & Co., Garden City, N. Y.).

Dictionary: *Pequeño Larousse ilustrado* (Larousse, Paris).

Sixth year.

Spanish Commercial Correspondence by Whittem and Andrade (D. C. Heath & Co., Boston).

Fuentes and Elias: *Manual de Correspondencia* (Macmillan Co., New York City).

At sight: Nelson's *The Spanish American Reader* (D. C. Heath & Co., Boston).

or

La Prensa (daily) New York City.

COLLEGE.

On entering college after six consecutive years of the first language students should be able to speak it fluently and correctly and to write it idiomatically. So college courses should be looked upon as seminar work, aiming at retaining and improving the grasp of the language learnt in the previous years.*

Such courses should be conducted entirely in the foreign language and based on technical publications, such as foreign consular reports, reports of foreign touring clubs and chambers of commerce, commercial and industrial reviews, the bulletins (Spanish and Portuguese) of the Pan American Union, etc., with one hour per week entirely devoted to sight reading.

Higher institutions should create for such students a special atmosphere that would replace, in part only of course, a sojourn abroad. A large room should be set aside for them where they would constantly meet other young men interested in similar studies, and find a library answering their needs, foreign newspapers and periodicals of all kinds, a miniature museum displaying industrial, mining, vegetable products, etc., with their names in several languages, various wall maps, lantern slides or moving pictures showing the daily life, industry, commerce, natural beauties, etc., of foreign lands, the scenes being explained in the foreign language or forming topics for general discussion, round table conferences, frequent lectures, games, a phonograph with records of foreign songs, etc.

This environment, artificial, it is true, but indispensable, could be more thorough by the cooperation of the departments of history, geography, mathematics, economics, law, etc., in using foreign textbooks in their elective courses.

Students should be urged to visit during their summer vacations the country the language of which they are studying. Scholarships for such trips might be offered by the Federal Government or the colleges through competitive examinations.

Auxiliary languages (i. e., third and fourth languages).—The methods and directions given for the first and second languages should be followed, but the class would be able to proceed at a much faster pace.

Schedule II (high school and college).—See methods and directions for Schedule I, but the work would necessarily be slower, especially during the first two years.

* If students preparing for foreign service are not numerous enough to form a section by themselves, they may follow advanced literary courses, but special courses should be given them during their junior and senior years.

Schedule III (college only).—The work should be intensified along the lines described in Schedule I for high schools and colleges. Students should not take more than two languages, a fact which would permit them to devote five hours a week to both languages right along.

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THE TEACHING OF SCANDINAVIAN LANGUAGES.

BY GISLE BOTHNE.

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One result of our country's participation in the great world struggle will be the demand for an improved and intensive study of modern languages in our educational institutions. If any country ever had the call to assume and strive to maintain leadership among the nations, not only politically and commercially, but also in almost all fields of human activity, that certainly has come to our country. In order to trade most intelligently and profitably with other peoples, and in general to deal with them in a spirit of sympathy and understanding of their peculiarities and characteristics, it is necessary to have that intimate knowledge which only the knowledge of their language can give. And we shall want to maintain henceforth most intimate relations with the

nations of the world. Already England and France are rearranging and amplifying their school courses for the purpose of giving the foreign languages a much more prominent place than before. And the Scandinavian languages have not been overlooked. England established during the recent war lecture-ships in the Scandinavian languages at the University of London and other places; and France, in addition to a professorship in the Scandinavian languages at the University of Paris previously established, invited boys from the Scandinavian countries to come to her schools in order to get a thorough training in French, in addition to the subjects required by the corresponding schools at home.

The schools and colleges of our country have given excellent instruction in modern languages in the years gone by, but much more will be demanded in this line in order to fit our young men and women for foreign service. The languages for which there will be the greatest demand will undoubtedly be French, German, Spanish, Russian, Italian. But also other languages will be taught, among them the Scandinavian. The Scandinavian languages comprise Danish, Norwegian, and Swedish. While philologists will continue to cultivate the study of Icelandic, which in its modern form is spoken by some 100,000 people, the other modern Scandinavian languages have much added value in modern times. These languages are spoken by 12 millions who belong to the most enlightened people in Europe. While the three languages are distinct, knowledge of one will make the effort to acquire the other two comparatively easy. The grammar of Norwegian and Danish is somewhat simpler than Swedish, but the student may start with any one of them as he has the opportunity, and a little practice and effort will help him to acquire all.

Great writers have developed the Scandinavian languages into almost perfect instruments of expression in all fields of human thought. All who are familiar with the subject will know that the Scandinavians have produced writers of a high rank, and that their literature has a value far beyond what might be expected from their numbers. It is probable that America will become the center of international scientific research, taking the place in the world occupied by Germany before the war. Our country has this mission on account of the cosmopolitan character of the population, the idealism, enthusiasm, and vigor of the people, the rapid advance in scholarship made within the last 40 or 50 years by great universities and scientific institutions, the wealth and liberality of our country. After we entered the war, steps were taken to make the Scandinavian countries such a center. And there is much that speaks for such a venture, apart from the fact that they have struggled hard to remain neutral in the great World War.

The Scandinavians have produced many scholars whose names are familiar to students in many fields, some, indeed, having attained the highest eminence. For years Scandinavian scholars and writers have been intelligent observers and keen interpreters of scientific achievements and political principles and events in the leading countries. And what has been written in the Scandinavian languages on these lines has a value of its own. Just one example: Those who are familiar with Bjørnson, the great writer and orator, whose familiarity with European politics was almost astounding, and who was one of the few Europeans whose words were listened to by the real leaders of Europe with respect, will remember his characterization of Prussianism, just as apt to-day as when it was written 50 years ago, his championship of the oppressed peoples of Austria-Hungary, just to mention a few instances. He even predicted years ago that the next great war would begin with Austria, though no doubt he had no idea of the colossal dimensions it would assume. An additional argument in favor of the Scandinavian countries as an international center of scientific

research is found in the fact that they are almost devoid of the national pride so common in the great countries of Europe, which are reluctant to admit the superiority in any field of another nation. The Scandinavians feel that they are under the greatest obligations to European countries like England, France, and Germany, and to America in the fields of science and scholarship, in literature, the arts, and politics; and they are inclined, while they take pride in having produced men who take rank with some of the best, to give each country its due.

Also commercially the Scandinavian countries have a growing importance. The waterfalls of Norway and Sweden are rapidly making these countries great centers of industry. Denmark's agricultural leadership is well known. The shipping industry of Norway has been one of the important factors in the world's trade. The establishment by the three Scandinavian countries of chambers of commerce and banking institutions in New York shows the importance of the trade relations between these countries and America. Here we have a great field which must be enlarged, and everything must be done to maintain cordial relations with the Scandinavian countries. The opportunity is there. The feeling of the Scandinavians toward America is as that of the smaller boys to the big brother. Americans of Norwegian descent number almost as many as the whole population of Norway; Americans of Swedish extraction almost one-half of Sweden's population; and while the emigration from Denmark has not been proportionately so large, the Americans of Danish descent are a most valuable element of our country.

The great bulk of the people from the Scandinavian countries who came to this country to settle have made their homes in the Northwestern States, of which Minneapolis may be called the center. It seemed only natural that the Scandinavian languages, if taught in America at all, would be taught in this section of the country particularly. And that has been and is yet the case. Scandinavian church bodies have established in this territory many schools where excellent instruction in the Scandinavian languages has been given. Americans of Scandinavian descent differ little from other Americans. And why should they be different? As the history of the Scandinavian countries shows a constant struggle for national existence and real democracy, they fall readily in with the American way of thinking, and as an element really reinforce our American ideals. On the language question the Americans of Scandinavian descent reflect as a rule the prevalent opinion of the American communities where they reside. Among the Americans of Scandinavian descent there is unanimity as to the necessity of knowing English, the language of our country. That is not a matter for discussion at all. Even those extremists who would exclude from all our schools all foreign languages have representatives among the Americans of Scandinavian descent. There are quite a few also of Americans of Scandinavian descent, as there are of other Americans, who hold rightly that a knowledge of foreign languages, including the Scandinavian, is highly desirable. We all know the class of Americans who believe the American type is something fixed and rigid, created some time ago and the pattern for all "foreigners" who come to make their homes here. There are others who believe real Americanism consists in considering the American type a living organism developing into the most perfect type of man by retaining the glorious spirit and faith which created and has maintained this Nation and by absorbing with the many national elements of our population also their best characteristics.

But we shall take more interest in the peoples of Europe and the world. We shall want to learn foreign languages. In this Nation, united as never before and with a unity of spirit and purpose, not created, but made manifest

by the war and a marvel to the world, one group of Americans will cease to treat with condescension and distrust American citizens of "foreign" descent, their equals in all essentials, a thing that has done more to create national groups in our country than anything else. We shall all learn from one another, one American group from the so-called foreigners, as the foreigners gladly have learned so much from those who were here before. And there is plenty of room for improvement along these lines. The time will come when the history of Minnesota and North Dakota, to mention examples, will be written and taught in our public schools, giving full credit to the Scandinavian element, as true and loyal Americans as any, and the countries they come from. The Minnesota Historical Society now has a department containing the largest collection in America of all sorts of publications that throw light on the history of the Scandinavian element. And the Scandinavian languages and history will be continued to be taught at the universities and in the high schools of Minnesota and adjacent States, because we all as Americans demand that there shall be given instruction in this country in these languages, valuable from so many points of view.

The University of Minnesota gives complete courses for the study of the Scandinavian languages, and a number of other universities give all such instruction that there is any demand for. In Minneapolis and St. Paul five high schools give instruction in Norwegian and Swedish, and in many places in Minnesota, North Dakota, Wisconsin, Iowa, and Illinois there is an opportunity to learn these languages. The study of these languages was introduced into high schools only a few years ago, and the line of textbooks is not as complete as desirable. But enough is available for American students to acquire knowledge of these languages, and there are indeed many teachers who are fully equipped to teach them. There are also books for English-speaking students for self-study in these languages, though I think all of this class of books have been published in England. A competent teacher is, of course, always preferable.

A two years' course in college, corresponding to a four years' course in a high school or secondary school, might be summarized as follows:

FIRST YEAR OR ELEMENTARY COURSE.

The purpose of this course is to acquire an accurate pronunciation, an understanding of simple language when spoken, the translation of easy English phrases and sentences into the Scandinavian language taught, Norwegian, Swedish, or Danish, to express in these languages ideas about ordinary experiences in life and about the content of the texts used. Of the methods used may be mentioned, reading aloud by both teacher and class, dictation, the students memorizing conversational prose and easy verse, oral and written translations from English, questioning the class and requiring answers in the language taught, using as material whatever texts the class has. It is not proper to merely translate the reader or the literary selections, but the students should be trained to express in the Scandinavian language taught the ideas he found in the text. And there should be constant drill in the elements of grammar.

Grammars used in this country: P. Groth: Danish Grammar. E. C. Otté: The Danish Language. P. Groth: Norwegian Grammar. J. A. Holvik: Beginner's Book in Norse. M. Michelet: First Book in Norse. A. Louis Elmquist: Swedish Grammar, also Swedish Phonology. E. J. Vickner: Swedish Grammar.

Intended for self-study are H. Forchhammer: How to learn Danish, C. A. Thimm's Norwegian Self-Taught, Swedish Self-Taught (London).

Norwegian Self-Taught. (Sixth edition by Prof. Girondahl, London University, Marlborough Co., London, is very good.)

SECOND YEAR OR ADVANCED COURSE.

The elementary work should be continued in the intermediate and advanced courses. There should be more conversation and more expression of connected ideas in the language taught, and more translation of English prose. There should be a discussion by the class in the language taught of the contents of the readers or books used. The teacher should furnish material relating to the history and geography of the country studied, and the class should tell what they have heard in the language taught. Students should prepare in Norwegian, Swedish, or Danish résumés of material discussed in class, deliver them in writing or give them orally. There should also be writing of themes and letters. The teacher should tell or read stories or newspaper articles, and the students reproduce them. The study of the grammar should be continued, with the drill required.

REFERENCES.

Norwegian books for American students to be used in these courses have principally been published by the Augsburg Publishing House and Free Church Book Concern in Minneapolis, Swedish texts by the Augustana Publishing House, Rock Island, Ill., and Engberg-Holmberg Publishing Co., Chicago.

A cheap Danish-Norwegian-English Dictionary has been edited by Johannes Magnussen. J. Brynildsen's *Norsk-Engelsk Ordbog* and *Engelsk-Norsk-Dansk Ordbog* are very good. So are B. J. Birkman's *Svensk-Engelsk Ordbok*, and E. Wenstrom and E. Lindgren's *Engelsk-Svensk Ordbok*. T. T. Evanths has recently published "*Norsk og dansk Handelsleksikon*." J. Guinchard's "*Sweden*" is an excellent book in English. A similar publication "*Norway*," published in 1900, is now somewhat out of date, but contains much interesting information. "*Boken om Norge* (5 vols.) has been published in Christiania for the use of American students and contains much excellent material. Swedish Year-book (in English) was published in Stockholm in 1921.

In connection with the Danish, Norwegian, and Swedish Legations at Washington, D. C., are press attachés who are willing, when called upon, to give information relating to many Scandinavian subjects.

THE TEACHING OF THE SLAVIC LANGUAGES.

By LEO WIENER,

Professor of Slavic Languages and Literature, Harvard University.

The study of the classical languages has long been endangered by the encroachment of the practical into the college curriculum. Indeed, the classical languages would long ago have suffered a complete fiasco were it not for the important philological bearing that they have had in the German school system, to which even the American schools have subscribed blindly. With the defeat of the German State there is bound to come a total reorganization of the schools, at least as regards language instruction. The philological *raison d'être* of the classical languages must give way to a training in languages, either for the general purpose of linguistic discipline, whatever the language may be, or for the specialized training in modern languages, that is, for the practical purpose of immediate application in daily needs. In the highest type of a school these two purposes will be indissolubly joined.

There are, probably, in the whole range of the European languages none so fit to unite these two purposes as the Slavic languages, more especially Russian, Polish, Bohemian, Serbian, because they combine in an admirable manner the qualities of the classical languages, as trainers of the mind, with the practical side of linguistic study to serve as aids in the vocational training. The Slavic languages in structure resemble Latin and Greek very closely. There is the same grammatical complexity and delicacy of shading, the same wealth of word building, the same intellectual appeal. Contrary to all current prejudice, the Slavic languages are not more difficult than either Latin or Greek, or French or German. The popular prejudice is due to the unfamiliar appearance of the Russian alphabet, the newness of the vocabulary, and the complexity of the declensional and the conjugational system, all of which strikes the student in the very beginning of his studies. But these difficulties are easily

overcome in a year, after which the great simplicity and freedom of their sentence structure, the utter absence of the periodic, which, for example, in German, keeps increasing, rather than decreasing, in successive years, and the unlimited power of word derivations from a limited basic vocabulary, which is characteristic of the Slavic languages, make them the most fascinating as well as the easiest for direct use in business or science. The Slavic languages, especially Russian, have but one norm for all purposes, whether literature, science, or business. After a two years' course one should be able to correspond, with the help of the dictionary and letter writer, on any usual subject, and a three years' course should give one a ready use for all practical purposes.

From a mere intellectual standpoint our high schools should provide an option in some of the modern languages for those who decline to take a classical course. The schools can not afford to abandon language study entirely; and Slavic languages, especially Russian, should receive an equal treatment with Spanish and French. From a practical standpoint the Slavic languages should appeal to young Americans as no other European language. The Serbians and the Bohemians consider America their best friend, and President Masaryk has said significantly that Bohemia would never forget America, and that it knew how to be grateful. This simply means that endless opportunities will open to young Americans who want to connect in a business way with the Slavic States. The same is true in regard to Poland, but while Serbia, Bohemia, and Poland can at most muster 30 million people, Russia, with its 150 million people, offers unlimited possibilities to generations of Americans. America is almost the only nation which the Russians trust, and to which they will look almost exclusively for help in their reconstruction, and to which they will intrust business of every description. It would be a burning shame if Americans did not in time take advantage of this exceptional opportunity to become the associate of Slavdom. We must begin at once to prepare young men for the task which will be required of them.

We should at once begin by offering a two years' course in Russian in all the reputable high schools and business schools, wherever a proper Russian instructor can be obtained. Our colleges and higher business schools should offer the same two years in Russian, an additional year or two in Russian, and one and two years' courses in Polish, Bohemian, and Serbian. All these courses should be so arranged that they should lead either to a mere literary course or directly to a business career. This is comparatively easy in the case of the Slavic languages, because, as pointed out above, there is but one norm for all literary styles. Unfortunately we possess no good textbooks or grammars for English-speaking people in Polish, Bohemian, or Serbian, but these can easily be supplied if a demand is created for them. But for the study of Russian there is now no lack of textbooks. Above all of these towers Bondar's Simplified Russian Method, a masterpiece of a textbook, which from the very start furnishes material for a literary and a business course. In schools or in self-instruction it can be used advantageously for two years. Then there are the excellent accented texts published by the Oxford University and Cambridge University presses, and the several textbooks and a grammar by Neville Forbes. Of the many dictionaries in existence, Alexandroff's is still the best.

NOTE.—Frequent requests for books helpful in the self-study of the Russian language induced the editor of this bulletin to issue early in 1918 the following list of books constructed and adapted largely with the object in view:

Bondar. Simplified Russian method. London, Effingham Wilson, 1915.

Bondar's Russian readers, Nos. 1-5, published by same firm, may be used shortly after beginning the grammar.

Forbes, Neville. Russian grammar. Oxford, Clarendon Press.

Karrachy-Smith. Lessons in Russian. London, S. Low, Marston & Co., 1915.

A key to the exercises of this grammar is also published by the same publisher.

Magnus, L. A. A concise grammar of the Russian language. London, J. Murray, 1916.
 Manasovich, Boris. A Russian manual for self-tuition. London, Kegan Paul, Trench, Trübner & Co., 1915.

Motti, Pietro. Russian conversation grammar. London, D. Nutt.

Rappoport, S. Hossfeld's new practical method for learning the Russian language. London, Hirschfeld Bros., 1916.

Riola, Henry. How to learn Russian. Based upon the Ollendorffian system and adapted for self-instruction. London, Kegan Paul, Trench, Trübner & Co.

It is advisable for self-study to purchase the key to the exercises of Riola's grammar. This key is published by the same firm.

Russian grammar simplified. Published by Hugo's Institute for Teaching Foreign Languages.

Russian reading made easy. Published by Hugo's Institute, etc.

May be used soon after beginning the grammar.

Solomonoff, J. Russian composition. Parts I, II, and III. London, Kegan Paul, Trench, Trübner & Co., 1916.

Mr. Solomonoff is instructor in the London County Council evening commercial institutes.

The serious student of Russian will find it advisable to buy early in the study of the language a simple dictionary. The Russian dictionary, by A. Wassilieff in the Langham series, published by Charles Scribner's Sons, contains the usual words with their pronunciation figured. David McKay, Philadelphia, publishes Hill's Vest-pocket English-Russian dictionary. W. J. Hernan, New York City, publishes a small phrase book of about 50 pages—What you want to say and how to say it in Russian.

IMPORTANCE OF TURKISH AND ARMENIAN LANGUAGES FOR FOREIGN SERVICE.

By ABRAHAM YOHANNAN.

TURKISH.

Turkish was the language of one of the greatest countries in Europe and Asia during the sixteenth and seventeenth centuries. A power which once influenced half the world, it overthrew and established empires, usurped the thrones of Persia, Arabia, Egypt, and Greece, and was dreaded by Italy, France, and Germany. Even now the Turkish language is spoken by millions of people belonging to a vast empire, and is more or less used in official circles from Tunis in Africa to the walls of China. It is the court language of western Persia; and in many provinces of south Russia and Afghanistan it is spoken as much as Persian. There are at least 25 written languages used in the Ottoman Empire, yet in spite of this babel of tongues, which is found chiefly at Constantinople, the strong individuality of the Turk has manifested itself in politics and government.

It is a regrettable fact that such a language has hitherto received little or no attention in America. The complete ignorance of it on the part of our countrymen has, from time to time, greatly impeded proper communication and intercourse between the two nations and given rise to most serious misunderstandings and difficulties in diplomatic as well as commercial affairs. A practical knowledge of the Turkish language is a requisite of diplomatic and commercial relations with the Ottoman Empire. It is essential in conducting the export trade of this country with the Mohammedan world, and in unfolding the treasures of modern science to the population.

It is expected that in the development of international relations there will in all probability result a closer connection between Turkey and the United States, and a growth of mutual interest. The secret of the success of certain European nations who gained prestige in dealing with the Turks, as well as with other orientals, lies in the fact that they learned their languages, adopted their customs, wore their costumes, and learned their mode of living; hence, they gained an intimate knowledge of their character, their needs, and requirements, and dealt with them accordingly. European manufacturers, for instance, understood perfectly the kind and style of goods and articles that were generally used by the orientals, and they supplied articles in that style, though it seems in many cases to be very clumsy and unwieldy to westerners. Bartering with a Turk is a complicated process and very vexatious, especially to one

who does not speak his language and know his habits. Scarcely a shopkeeper makes even a pretense of having a fixed price. He asks more than he expects, allowing a wide margin for dickering. If he should get what he asked, he would regret that he did not ask more. We must lose no opportunity to place ourselves in close communication both with the governing Ottoman element and with the numerous races subject to its sway.

While it is true that English-speaking interpreters are available in the principal centers, yet it is infinitely preferable to conduct negotiations of any kind directly, rather than by means of intermediaries of doubtful accuracy. And in the smaller towns it is practically impossible to find persons with sufficient command of English to render them suitable as interpreters. Furthermore, it is important for commercial enterprises to be able to prepare information and catalogues and lists in Turkish, since English is understood only by an infinitesimal part of the population.

A system of courses should be established by colleges and universities, designed to prepare students for foreign service in Turkey, either in the service of the United States Government, in business enterprises, or in scientific investigations. The courses thus offered should aim to make the students familiar with the general subjects required for successful work in Turkey, to enable them by means of this knowledge to gain quick mastery of general problems that present themselves in various occupations. The courses should also include something of the customs, history, beliefs etc., of the country, to develop a sympathetic understanding of the people, and to enable one to avoid giving offense through ignorance of prejudices or superstitions.

The Turkish language is of Tartar origin, a member of Ural-Altaic family, dominated by the law of vowel harmony and agglutination. Turkish has admitted a large number of Arabic and Persian words, grammatical forms, and even entire sentences. It is best coordinated with the study of Arabic or Persian, from which languages the great bulk of its vast vocabulary is drawn. For this reason the study of Turkish presents unusual difficulties to anyone not acquainted with some oriental language, and for the same reason it should not be introduced too early in a college course. The course should be framed for graduate students, but should also be open to specially qualified students who have not completed the full college course and to those who have had considerable linguistic training.

The successful completion of the courses offered will normally occupy three years in the case of candidates for diplomatic service and two years for those who prepare for commercial or other foreign service. In each case two hours per week will be sufficient. After a preliminary survey of the grammar it is best to take up at once the reading of easy texts, the details of the grammar being explained as they are exemplified.

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 With English phonetic pronunciation, containing vocabularies, elementary grammar, idiomatic phrases and conversations, English and Turkish dictionary, money, weights, and measures.
 Tien, Rev. Anton. A Turkish grammar. London, 1896.

ARMENIAN.

The study of Armenian is made difficult by the alphabet, which closely resembles that of no other language, and by the fact that, although it is an Indo-

European language, the words seem totally unfamiliar to the learner. For this reason it should not be introduced too early in a college course, but rather reserved for more mature students or those who have had considerable linguistic training. There is no subject related so closely as to be coordinated with special advantage. Before taking up the reading of texts, considerable attention must be paid to the grammar, the details of which are of course taken up in connection with the reading of texts. To obtain results of any practical value the course must extend over not less than two years. A purely conversational method does not give a proper command of the language, but conversation-exercises can be introduced to advantage in the second year's work.

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PART IV. PERIODICAL LITERATURE.

USE OF PERIODICALS IN EDUCATION FOR FOREIGN TRADE SERVICE.

With Bibliographies of Periodicals and Periodical Articles.

By JOHN COTTON DANA,

Librarian Free Public Library of Newark, N. J.

It seemed quite simple to compile a list of periodical references which might be found useful in training for foreign trade and consular service, but as we investigated the subject we discovered three things: That such a list printed this week would be out of date the next; that any given list to be useful must, above everything else, be up to date; and that the value of periodicals in training for foreign service was far greater than we had supposed it would be. We, therefore, decided to give the results of our investigation in this field, feeling that it might prove useful to know how we arrived at our conclusions.

Our first search for articles on the subject in general was met, not unexpectedly, by a dearth of material. The papers and reports in English, Spanish, and Portuguese contained in the Pan American Scientific Congress Proceedings for 1915, the abstracts of these papers in the report on the commercial education subsection of this congress by Glen Levin Swiggett (Bur. Educa. Bul., 1916, No. 25), and those given in Dr. Swiggett's "Conference on Training for Foreign Service" (Bur. of Educa. Bul., 1917, No. 37), none of which are to be classed strictly as periodical references, were the only ones having constructive tendency. Other leads ended in expressions of opinion that such specialized training did not, but should, exist in some standardized and adequate form.¹

Turning to the individual subjects requisite in a course on foreign trade, we found an abundance of material on the subjects themselves, with little on methods of teaching the use of it. During the last four years articles by the thousands have appeared, all or any of which might be suitable for collateral reading, but with little or no measure of their permanent, ephemeral, or comparative worth without an expenditure of much time in going through the mass critically. For it must be understood that the usual factors in discrimination do not hold in this instance and that ordinary processes of selection on authoritative grounds can not be consistently followed. That what a certain author writes or a certain magazine publishes on a given subject should be worth attention is ordinarily a workable rule for sifting references previous to examination of material. In modern business, facts take precedence of authorities, information is not valued for its verbal dress, and timeliness outweighs prestige. It is of small benefit to learn a noted jurist's exposition of a law if to-day's newspaper gives an inch of space to its amendment or repeal. This is especially true just now, since war action is annulling the past, unstabilizing the present, and promising for the future permanent change. Nor is length a factor

¹ Since the above was written, certain other articles have appeared which are given in the references.

in determining value. To reject for brevity, a correct procedure in other cases, becomes here arbitrary and unwise. For example, that an American chamber of commerce for Spain has begun active work may be the most important item in the "World's Markets" for June, while almost every article in successive issues of "The Americas,"² although short and generally unsigned, could be used, as could each article in the department of international banking and finance of the "Bankers' Magazine." This applies to all the subjects except three, which touch the historical element in commerce, government, and law, and find their best treatment in books. Hence fact, recent and timely, seems the criterion for periodical valuation.

To recognize this makes clear the inadequacy of any bibliography of articles. It is inclusion, not selection, that is needed here, a continuous inclusion of all that may be useful (accompanied by a continuous rejection of what has passed its usefulness), continually collected, or, to use the librarian's technical word, cumulated, to date. No fixed list, however carefully approved at its printing, can do this. Daily its items become out of date, and their retention, which gives them a false importance, becomes an obstruction. Then, also, a really representative list would appall by the number of its items, although a short one chosen to show the sort of thing that may be found, and understood to be of intrinsic value only at the date of printing, may serve a useful purpose. Such a list we have prepared and appended.

There are two ways, one direct and one through bibliographic aids, that offer a feasible solution of how periodical literature may be used here to the best advantage. The first is the obvious one of seeing the magazines themselves. We give a selected list of the most suitable, slightly annotated and roughly classed. An arrangement of periodicals under the numerous headings chosen for the list of articles would, of course, mean frequent repetition of titles.

But the problem of inclusion may be more nearly solved, we believe, by supplementing direct use, of periodicals with that of some such aid as is given in the Standard Daily Trade Service, published by the Standard Statistics Company, 47 West Street, New York City, at a subscription price of \$120 a year. This is a combined digest and index to newspaper, periodical, and other sources of basic exporting information, supplying current news and forecasts in full. It consists of daily issues not exceeding 8 pages in length, for insertion in a loose-leaf binder, a monthly index whose every second issue covers the last two months; weekly tables and graphs of trade and financial figures of the United States for a period of 15 years. A personal service to subscribers is also furnished without additional cost.

This service gives full digests and excerpts of articles in newspapers, some 88 trade periodicals, and Government publications of the United States, Europe, Latin America, and the Far East; digests of legislative bills, proclamations, and other documents, and much direct information from its bureaus in Washington and Paris, the former keeping in such close touch with all governmental activity as to furnish within 24 hours data regarding legislation, court decisions, Federal Departments, boards and commissions, the Pan American Union, and similar organizations, and the latter supplying similar European information from two to four weeks earlier than it would otherwise reach the United States. French, Russian, Spanish, and Portuguese publications also are translated and digested. Subjects such as trade relations of countries, commercial products, export and import legislation and regulation, financial legislation and conditions, credits, international banking and exchange, foreign transportation facilities and projects, foreign commercial development,

² Publication now ceased.

shipping, marine insurance, and patent laws and their interpretation, are treated in themselves and many of them also as subdivisions under country and locality.

It seems to us that this short cut to current foreign commercial information could be used to distinct advantage by instructors and students.

Also useful is the foreign trade section of the Prentice-Hall Business Digest Service, published by the Prentice-Hall Inc., 70 Fifth Ave., New York City; subscription, with quarterly cumulations, \$30. This weekly digests all the articles of certain business periodicals and certain articles of more general magazines. This service is primarily an index-digest to periodical articles, while the Standard Daily Trade is primarily a news purveyor and forecaster.

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Journal of Commerce, daily. Published at 32 Broadway, N. Y. Subscription \$15 (N. Y. City).

Banking, Credits and Exchange.

The Bankers Magazine, monthly. Published by the Bankers Pub. Co., N. Y. Subscription \$5.

Runs a department on international banking and finance.

Credit Monthly. Published by the National Association of Credit Men, 41 Park Row, N. Y. Subscription \$3.

The Commercial and Financial Chronicle, weekly. Published by Wm. B. Dana Co., N. Y. Subscription \$10.

Economic World. Published by the Chronicle Co., 128 Water St., N. Y. Subscription \$4.

Many useful short articles. Analyses of foreign commerce of the United States and many foreign countries.

Chase Economic Bulletin, irregular. Published by Chase National Bank, New York City.

Business Organization for Exporting.

Associated Advertising, monthly. Published by the Associated Advertising Clubs of the World, N. Y. Subscription \$1.50.

Commerce Reports. Weekly organ of the Bureau of Foreign and Domestic Commerce, Dept. of Commerce. Obtainable from the Superintendent of Documents, Washington, D. C. Subscription \$3.

The first source for exporting news; containing information mailed and cabled by our consuls, attachés, and agents abroad.

Exporter's Review, monthly. Published by Exporter's Encyclopedia Co., N. Y. Subscription \$3.

Lists foreign trade opportunities.

Journal of Accountancy, monthly. Published by Journal of Accountancy, N. Y. Subscription \$4.

Best accounting periodical.

Marine News, monthly. Published by N. Y. Marine News Co., N. Y. Subscription \$3.

Gives a page or more to the news of each American port, shipyard information, marine insurance notes, and lists new maritime incorporations and ocean freights and charters.

The Nation's Business, monthly. Published by the Chamber of Commerce of the United States, Washington, D. C. Subscription \$3.

Official magazine of the National Chamber of Commerce.

The Nautical Gazette, weekly. Published by the Nautical Gazette, 20 Vesey St., N. Y. Subscription \$4.

An international newspaper. Page given to foreign trade and another to marine insurance. Port development. Short unsigned articles.

Printer's Ink, weekly. A journal for advertisers. Published by Printer's Ink Pub. Co., 185 Madison Ave., N. Y. Subscription \$3.

Oldest and foremost of advertising magazines.

System. Published by A. W. Shaw Co., Chicago. Subscription \$8.

Often the first to treat new subjects though generally in a cursory way.

The World's Markets, monthly. Published by R. G. Dun & Co., The Mercantile Agency, 290 Broadway, N. Y. \$2.50.

A journal of information for all who are engaged in international trade.

Commercial and Financial Conditions in Foreign Countries.

Baltic Review, monthly. Published at 129A King's Road, Chelsea, London, S. W. 3. Subscription £1.

Board of Trade Journal and Commercial Gazette (English), weekly. Published by His Majesty's Stationary Office, Imperial House, Kingsway, London. 6d. per issue.

Divisions on customs regulations and tariff changes, domestic and foreign, Imperial and foreign trade, Government notices affecting trade, and trade statistics.

Bulletin of the Pan-American Union, monthly. Published by the Pan American Union, 17th and B Sts., NW., Washington, D. C. Subscription \$2.50.

Commerce Monthly. Published by National Bank of Commerce, New York City. Free.

Eastern Commerce, monthly. Published at 25 Water St., Yokohama. Subscription \$5.

Foreign Trade Bulletin, bimonthly. Issued by the Foreign Trade Bureau of the American Express Co., 65 Broadway, N. Y. Free on request.

A folder giving brief notes on regulations affecting shipping.

Japanese-American Commercial Weekly. Published at 414 8th Ave., New York City. Subscription \$2.

Lloyds Bank Monthly; a survey of international trade conditions. Published at 71 Lombard St., E. C. 3 London.

Mexico, Financial and Commercial, semi-monthly. Published by Criterion Publishing Syndicate Inc., 15 Park Row, New York City. Subscription \$2.

Poland, monthly. Published by American Polish Chamber of Commerce and Industry Inc., 953 Third Ave., New York City. Subscription \$2.

Polish Economic Bulletin, monthly. Published by Sibunion Ltd., 123 Cannon St., E. C. 4 London. Subscription £1.

- Review of American Chamber of Commerce in France, Inc.,** semi-monthly. Published by American Chamber of Commerce in France, Inc., 32 Rue Taitbout, Paris. Subscription 25fr.
- Russian Economic Bulletin.** Published by American-Russian Chamber of Commerce, Woolworth Building, New York City. Subscription \$1.
- The South American:** a journal for all interested in Latin American affairs, monthly. Published by The South American Pub. Co., 310 Lexington Ave., N. Y. Subscription \$3.
- The South American Journal and Brazil and River Plate Mail,** weekly (English). Published at 300 Dashwood House, New Broad St., E. C. 2, London. 9d. the issue.
- Standard Bank of South Africa, Ltd.,** monthly. Obtainable at 68 Wall St., New York City. Free.
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DEPARTMENT OF THE INTERIOR
BUREAU OF EDUCATION

BULLETIN, 1921, No. 28

**EDUCATIONAL SURVEY OF
WHEELING, WEST VIRGINIA**

**A REPORT OF A SURVEY OF THE PUBLIC SCHOOLS
OF THE INDEPENDENT SCHOOL DISTRICT OF WHEEL-
ING, WEST VIRGINIA, MADE AT THE REQUEST OF THE
BOARD OF SCHOOL COMMISSIONERS, UNDER THE
DIRECTION OF THE UNITED STATES COMMISSIONER
OF EDUCATION**



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1921

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**LETTER OF DR. P. P. CLAXTON TO THE PRESIDENT OF THE
WHEELING BOARD OF EDUCATION.**

Hon. PAUL O. REYMANN,

President, Board of Education, Wheeling, W. Va.

MY DEAR MR. REYMANN: In accordance with the arrangement entered into with the Wheeling Board of Education, I have caused a careful study to be made of the public school system of your city, and have received preliminary reports from the members of the survey commission designated to do the field work.

As requested by you, I have had prepared a brief digest, or summary of the principal conclusions and recommendations, in order that these may be distributed in printed form to the members of your board and to others interested.

Accompanying this summary, I am sending also partial reports, or sections of the report, which present a portion of the supporting evidence and the argument for certain of the recommendations. I am making an effort to get as much as possible of the report into your hands in time for appropriate action in the emergency caused by the early termination of the recess taken by the West Virginia State Legislature.

I believe you have in the material presented herewith sufficient data to enable you to formulate your petition to the legislature. The remainder of the report I hope to place in your hands within the next two or three weeks.

Permit me to thank you and, through you, all the members of the board and the teaching staff for the hearty cooperation which all concerned have manifested toward the work of the survey, and to express the hope that the final result will be found in improved educational opportunities for the children and youth, as well as the maturer citizens of Wheeling, and increased utilization of these opportunities by all.

Very truly, yours,

P. P. CLAXTON,
Commissioner.

WASHINGTON, *March 10, 1921.*

MEMBERS OF THE SURVEY COMMISSION.

The members of the commission appointed by the Commissioner of Education to make the survey of the public schools of Wheeling, and to report to him their findings and recommendations, are as follows:

From the Bureau of Education.

Dr. William T. Bawden, assistant to the commissioner, director of the survey.

Mrs. Henrietta W. Calvin, specialist in home economics.

Miss Nina C. Vandewalker, specialist in kindergarten and primary education.

Miss Florence C. Fox, specialist in educational systems.

Mrs. Alice Barrows Fernandez, specialist in industrial and economic relations in education.

Miss Julia B. Tappan, assistant in school hygiene.

From Outside the Bureau of Education.

Dr. J. Franklin Bobbitt, professor of educational administration, University of Chicago, Chicago, Ill.

Mr. Ralph Bowman, specialist in school finance and accounting, United States Bureau of Efficiency, Washington, D. C.

Dr. Willard S. Small, director of educational research and development, Interdepartmental Social Hygiene Board, Washington, D. C.

Dr. Chester A. Buckner, professor of secondary education, University of Pittsburgh, Pittsburgh, Pa.

Dr. Thomas Alexander, professor of elementary education, Peabody College for Teachers, Nashville, Tenn.

Dr. Fletcher B. Dresslar, specialist in school architecture, buildings, and grounds, Peabody College for Teachers, Nashville, Tenn.

Mr. Walter H. Klar, director art department, University of Pittsburgh, Pittsburgh, Pa.

Mr. Lynton F. Garrett, principal of the Training School, State Normal School, San Marcos, Tex.

INTRODUCTION.

On December 17, 1920, the president of the board of school commissioners inquired concerning the possibility of having a survey of the public schools made under the direction of the United States Commissioner of Education. The conditions named were met by the board at a special meeting held on December 30, and an appropriation of \$5,000 was made to cover the necessary expenses of the survey. The members of the survey commission, as indicated on the preceding page, were appointed by the Commissioner of Education, and the field work began on Monday, January 17.

The field work was completed on March 10; most of the work was done during February. The aggregate number of days devoted to field work was approximately 200.

On Thursday evening, March 10, the director of the survey made a report of the conclusions and recommendations at a special meeting of the board of school commissioners, and a digest of the report was given to the press for release on the morning of the 12th. On Friday evening the report was made public at a meeting of representatives of the board, various civic organizations, and the press through the distribution of a printed pamphlet of 53 pages.

THE SURVEY BUDGET.

The principal items of expenditure in connection with the survey may be summarized as follows:

Transportation and subsistence of members of the commission.....	\$1, 796. 91
Honoraria of members of the commission not connected with the United States Bureau of Education.....	1, 850. 00
Materials used in educational tests.....	47. 09
Clerical assistance.....	399. 92
Printing preliminary report.....	348. 00
Supplies, telephone, telegraph.....	80. 52
Total, to April 5, 1921.....	4, 522. 44

EDUCATIONAL SURVEY OF WHEELING, WEST VIRGINIA.

I. ORGANIZATION AND ADMINISTRATION OF THE SCHOOL SYSTEM.

INTRODUCTORY.

The independent school district of Wheeling was established by act of the Virginia Legislature, in Richmond, February 23, 1849. It was then, and has since been maintained, entirely independent of all other school corporations, general school legislation, and even of the municipal corporation of Wheeling—notwithstanding, at present, more than two-thirds of the area of Wheeling lies outside the independent school district.

Originally the board of school commissioners consisted of five members. Subsequent legislation to all intents and purposes divided the independent school district into seven relatively autonomous subdistricts, and provided for the present board of 21 members. In certain important respects this board functions as seven relatively independent local boards, and exercises executive control over such technical matters as appointment of teachers, administration of the school buildings, and the like.

A good type of personnel appears to have been attracted to the office; and the subdistricts have acquired a tradition of selecting high-minded men for their school commissioners. Certainly the present board is of this type. Some of the board's methods and actions must be criticized; but the errors to be pointed out are errors of judgment and not of character or effort.

Minutes of the board show that the superintendent of schools is not consulted nor asked to nominate teachers; until recently the principals were not consulted on appointments; nothing more clearly shows the primitive character of educational administration in Wheeling.

LACK OF COMMUNITY INTEREST AND SUPPORT A SERIOUS HANDICAP.

The community generally has been indifferent toward public school matters; active public cooperation and moral support have been largely lacking. Inactive members of the community who have made no effort to promote good schools have scarcely earned a right to criticize.

MANY COMMENDABLE FEATURES IN SPITE OF UNFAVORABLE CONDITIONS.

In spite of unfavorable conditions, including lack of vigorous community support, unwieldy size of board, inefficient scheme of organization, and the like, numerous commendable features have been introduced by the board. Some of these are:

- (1) Medical inspection or health service.
- (2) Numerous special supervisors and special teachers.
- (3) Free textbooks.
- (4) Development of the public library.

- (5) Recent large increases in salaries.
- (6) Recent expansion of the budget.
- (7) Setting standard qualifications for high-school teachers.
- (8) An unusually extensive series of courses for vocational, industrial, commercial, and home-making training.
- (9) Recent attempts to extend the benefits of physical training.
- (10) The tendency to defray the expenses of members of the supervisory corps in attendance at professional meetings.
- (11) Provision of visiting days for teachers.
- (12) A not ungenerous sick-leave allowance.
- (13) Provision of a "coach" teacher for each building (although the plan is not administered effectively).
- (14) An unusually good system of providing substitute teachers (incomplete, but excellent so far as it goes).
- (15) Numerous sets of supplementary readers, and a system for circulating them (in serious need of attention, but a highly commendable start).
- (16) A teachers' pension system.
- (17) Evening schools.
- (18) Americanization classes.

DIFFICULTIES OF ADMINISTRATION THROUGH COMMITTEES.

The board has an unusually large number of standing committees—ten—each of which performs important functions properly belonging to the board itself. Four of these committees are each as large as the entire school board of New York City; and the smaller committees are each the size of the entire school board in Albany or Troy.

Adding these 10 functional boards to the seven local or subdistrict boards, and the composite board in which they all belong, one may realize something of the complexity of the organization and the possibilities for scattering responsibility.

For example, the committee on buildings and grounds acts chiefly as individuals, ordering repairs, painting, etc., without consultation, and without previous action by the board. The committee meets, confirms the acts of individual members, and then requests confirmation by the board. From the way in which reports are presented, the board can have no real knowledge of what is done; confirmation is practically invariable, and without debate.

In view of the amount of work to be done, members of the committee can not give the amount of time necessary to know all the details and needs of all the buildings. Each member knows many things about "his" building, it is true, but there is nothing approaching that specialized understanding of buildings, grounds, and equipment in relation to education that is needed for the efficient and economical administration of a modern school system. Further, they themselves sit among the judges of their own acts.

Evidence of a certain degree of irresponsibility is found in the use of business practices universally condemned, and generally forbidden by law; such as entering into contractual business relations with individual members of the board, and executive action by individual board members prior to directing action by the board.

The results of this system of lay administration may be seen in the actual building situation in Wheeling. Even old buildings can be made pleasant, light, airy, sanitary, and reasonably safe; but this has not been done. There is little evidence of careful planning, standardized procedure, settled policies, a forward-looking building program.

The board's task is not to *do* the work, but to *get it done*; first, by directing, and then by inspecting, so as to be sure the work is efficient and economical.

The committee on buildings and grounds is active and conscientious, and appears to give an unusually large amount of time and attention to executive labors. It is not a question of honesty, or integrity, but of incorrect organization and procedure for securing results.

IMPOSSIBLE FOR LAYMEN EFFECTIVELY TO EXAMINE AND SELECT TEACHERS.

The activities of the committee on teachers and schools afford other examples of the difficulties involved in the attempt to perform expert executive functions through committees or individual members of the board. Without professional training and extended experience, it is not possible to judge efficiently the relative merits of candidates for principalship and teaching positions. In actual practice, the scheme has worked badly, omitting entirely any provision for rating the efficiency of principals and teachers, and means for eliminating the inefficient; another serious omission is that of a rule requiring consultation with superintendent and principals in choosing teachers. No provision has been made for recognizing superior merit or professional advancement by increases in salary or otherwise.

The alternative plan is to leave executive labors to professional executives. The superintendent alone, in consultation with principals and supervisors, can know how many teachers are needed, and the special abilities needed for each type of position. This plan places responsibility where it belongs; relieves the board of unnecessary labors; gives the superintendent authority over his teachers, which he can not have so long as they owe their positions to others; permits the board to hold the superintendent responsible for results—a thing impossible now.

WORK OF OTHER COMMITTEES DISCUSSED.

The report discusses in detail the activities of all the standing committees of the board, and shows clearly what functions properly belong to the board and what duties should be performed by executive officers under the direction of the board. It is impossible in this brief digest to devote space to each.

LACK OF AN EXECUTIVE HEAD A SERIOUS DEFECT.

To summarize the situation, perhaps rather bluntly, the fundamental weakness in the public school system in Wheeling has been executive management by laymen. There are many analogies between the management of a school system by a board of education and the management of a business or a factory by a board of directors; but the fundamental principles of organization and management generally accepted in business and industry, and in progressive school systems, have not been operative in the Wheeling schools.

The board of directors of a business or manufacturing corporation does not mix in the details of the work. It employs a chief executive, outlines its policies to him, makes clear to him the results to be secured, gives him control over the means to be employed, and then demands that he get results. They then employ various methods of accounting, auditing, and otherwise checking up the results.

In the Wheeling schools, however, the executive work of the board is mainly performed by committees, or even by individual members, who buy and sell, employ and discharge, enter into and abrogate contracts, direct employees, and attend to countless details usually left to executives and their subordinates. In the sense in which the term is used in the business world, the board has no chief executive, and there is little evidence in the plan of organization to show any realization of the need of one.

Let the business man on the board imagine what would happen to his bank, or store, or factory, if it were managed by a committee of outsiders who dipped into the business for, say, two hours each week. The conduct of a big school system is a more complex, difficult, and technical job than merchandising or banking.

What is needed is the adoption of a plan by which the board will get things done in responsible ways, and enforce responsibility, without doing the things themselves.

The board should occupy itself mainly with directorial and inspectorial functions, leaving detailed executive labors to their specialized and experienced executive officials—the superintendent of schools and his subordinates.

FUNDAMENTAL NEEDS IN WHEELING.

Briefly stated, some of the things which need to be done are:

- (1) Eliminate the subdistricts, except for attendance purposes.
- (2) Eliminate the local commissionerships, and have board members elected at large.
- (3) Provide a small board of men and women who will be beyond the reach of local, petty, personal, and political influences.
- (4) The board should delegate responsibility and authority to its chief executive, provide the necessary means, demand results, and then stand aside and let the superintendent and his organization get results.
- (5) The board should adopt impersonal ways of checking up results, efficiency, and economy.
- (6) The board should take the community into its confidence fully, at all times, and keep the public informed as to policies, needs, and results.

NEW LEGISLATION ESSENTIAL.

The laws governing the independent school district of Wheeling are in a confused, fragmentary, and archaic condition. The complete charter legislation which governs the district is not in the possession of the board, nor any of its officers, nor of the public library which is under the control of the board.

The school laws applicable to Wheeling should be completely rewritten on the basis of the best modern practice. The report contains detailed suggestions concerning those matters which should be included in State legislatures, and also those which should be cared for by rules and regulations or other local legislation by the board.

II. THE LEGISLATIVE PROGRAM.

There is a commendable tendency in progressive States to eliminate special charter legislation for independent city school districts. When the State drafts a good general law for the purpose, it saves a city a good deal of special maneuvering simply to come in under it.

If Wheeling does not choose to follow this course, it is recommended that, in rewriting the charter, the general State legislation be accepted so far as it is suited to conditions in Wheeling, and that special legislation be sought only in so far as the general legislation is not suitable.

NECESSARY DISTINCTION BETWEEN STATE LEGISLATION AND THE RULES AND REGULATIONS OF THE BOARD.

Only the more general and fundamental things should be accomplished by State legislation. Matters of detail should be left to the by-laws, rules and regulations, and other legislation by the board.

In the following summary of the things to be taken care of in the proposed reorganization of the affairs of the independent school district of Wheeling, those matters which are usually best taken care of by *State legislation* are designated by the letter (S); and those which are best included under the *rules and regulations* or other legislation of the board are designated by the letter (R)

SUMMARY OF POINTS TO BE COVERED.

(1) The subdistrict divisions should be abolished, except for attendance purposes. (S)

(2) There should be a school board of five members, elected at large, one member being elected each year, for a term of five years. (If elections must be biennial, then the term should be six years, one-third of the board, as nearly as may be, being elected at each election.) (S)

(3) It is desirable, though not so essential, that members be nominated by petition and elected on nonpartisan ballot, at special school elections, held in the school buildings, and directed by the board of education. (S)

(4) Board members should be citizens of the United States, and residents of the city for at least three years immediately preceding election. (S)

(5) No salary or other remuneration should be paid to board members. This does not preclude the payment of traveling and other necessary expenses involved in the conduct of the board's business. (S)

(6) When a vacancy occurs other than by expiration of term of office, it should be filled by the mayor (subject to confirmation by the council) until the next school election, when it should be filled by election for the unexpired portion of the term. (S)

(7) A specific day and hour should be fixed for the first meeting of the board subsequent to the annual election, at which time the board is organized for the year. (S)

(8) A specific day and hour should be fixed for the regular monthly board meetings, and a method prescribed for calling special meetings. (R)

(9) The board should have no standing committees except the committee of the whole. (R)

(10) When tasks arise demanding committee work, the board should appoint temporary special committees. (R)

(11) The superintendent of education should be made the chief executive of the board of education in its administration of all aspects of the school system. (S)

(12) The board should appoint the superintendent for a relatively long term of three or four years, subject to removal only for cause by a four-fifths vote of the board. (S)

(13) In Wheeling the board should create (if not already created) and provide for the following positions subordinate to the chief executive: (1) Business assistant (who also should be clerk of the board); (2) manager of properties (or director of buildings and grounds), subordinate to the business assistant; (3) director of census and attendance; (4) director of health (including both medical inspection and physical education), (5) primary supervisor. Beyond these, the present provision of special supervisors, principals, teachers, nurses, etc., appears to be good. (R) (By-laws.)

(14) Outside of the major executive organization the board should provide for and appoint for only part-time or occasional duties an attorney, a treasurer, and an auditor. (R) (By-laws.)

POWERS AND DUTIES OF THE BOARD.

(15) The board should possess corporate powers: The power to acquire, hold, lease, and sell real and personal property; to receive bequests and donations; to sue and be sued; to condemn property needed for educational purposes; and to perform other corporate acts required for the management and control of the schools and other agencies committed to its care. (S)

(16) The powers and duties of the board of education should be:

(a) To determine all questions of general policy to be employed in the conduct of education. (S)

(b) To create, abolish, modify, and maintain such positions, schools, divisions, classifications, etc., as may be necessary for the efficient administration of the work. (S)

(c) To have the care, custody, title, control, and safekeeping of all school property or other property of the city used for educational, social, or recreational activities and not specifically placed by law under the control of some other body or officer, and to prescribe rules and regulations for the use and preservation of such property. (S)

(d) To purchase new school sites or additions to sites, and to order new buildings or additions to buildings erected, as the needs of the schools and other educational, social, and recreational agencies under their control may necessitate; and to approve all contracts entered into. (S)

(e) To rent or lease property required for the use of schools or other agencies maintained and directed by the board. (S)

(f) To establish and maintain such free elementary schools, intermediate schools, high schools, kindergartens, vocational and industrial schools, technical schools, night schools, part-time or continuation schools and classes, vacation schools, open-air schools, schools for adults, schools for delinquents, schools for mentally and physically defective children, or such other schools or classes as the board shall deem necessary to meet the needs and demands of the city. (S)

(g) To establish and maintain libraries and museums which may be open to the public, to organize and maintain public lecture courses, and to establish, equip, and maintain play grounds, recreation centers, social centers, and reading rooms. (S)

(h) To authorize the formulation of the annual budget of expenditures for the schools, public library, and other agencies maintained by the board, and to pass upon and adopt such budget as the work appears to necessitate. (S)

(i) To fix the annual tax levy for education. (S)

(j) To fix the salaries of all officers and employees. (S)

(k) To approve all expenditures made. (S)

(l) To approve all contracts entered into. (S)

(m) To authorize the formulation of the by-laws, rules, and regulations needed for the direction and management of the schools and other agencies and activities under the board, and to approve such by-laws, rules, and regulations before they become operative. (S)

(n) To authorize the courses of study which shall be given in the schools or by other educational agencies directed and maintained by the board, and to approve the content of such courses before they become operative. (S)

(o) To authorize the selection and determination of such books, maps, globes, apparatus, furniture, tools, and other equipment and supplies as may be necessary for the proper and efficient management of the schools and other educational, social, and recreational agencies and activities under its management and control, and to approve such selections and determinations before purchases are made. (S)

(p) To authorize the purchase and provision of such books, maps, globes, apparatus, furniture, tools, and other equipment and supplies as may be necessary for the proper and efficient management of the schools and other educational, social, and recreational agencies and activities under its management and control, and to approve prices and other conditions of purchase, before such purchases are made. (S)

(q) To select and employ a superintendent of education, who shall be the chief executive of the board. (S)

(r) To authorize the determination of the number and qualifications of employees to be provided for the work of the several schools and agencies, and to approve such determinations before employees are selected. (S)

(s) To authorize the establishment of an efficient system of certification of teachers, and the preparation of eligible lists. (S)

(t) To require the superintendent to nominate all assistants, directors, and supervisors of special departments, principals, teachers, physicians, nurses, janitors, and other officers and employees in the organization under his charge; the board to pass upon and approve all nominations before appointments are made, and to make all appointments and approve all contracts. (S)

(u) To authorize the determination of plans for attendance, census, classification, grading, promotion, transfers, graduation from schools and courses, and other matters involved in the management and control of the pupils and students, and to approve all such plans before they become operative. (S)

(v) To authorize the determination of plans for testing, recording and reporting the degrees of proficiency attained by the pupils in the several classes, grades, and schools; approve such plans before they are put into operation; and to provide the means necessary for making the plans operative. (S)

(w) To authorize the preparation and publication periodically of reports to the community which set forth in a clear and intelligible manner the character of the efforts, degrees of achievement, working conditions, finance, and further needs of the

schools and other agencies maintained and directed by the board; to approve such reports before they are published; and to direct their publication and distribution. (S)

(x) To require their officials to make such reports of the educational and other activities under their charge as may be legitimately requested by county, State, or national authority. (S)

(y) To perform any duty imposed upon boards of education by the laws or administrative regulations of the State so far as they may be applicable to the schools or other educational agencies and affairs of the district and not inconsistent with other legislation affecting the district. (S)

(z) To prescribe such by-laws, rules, and regulations as may be necessary to make the State legislation effective, and for the conduct of the proceedings of the board, and for transacting all the affairs of the board that relate to the management, operation, control, maintenance, and discipline of the schools, public library, and all other educational, social, and recreational agencies and activities under its charge or direction. (S)

(aa) To perform such other duties and to possess such other powers as may be required to administer the affairs placed under its control and management, to execute all powers vested in it, and to promote the best interests of the schools and other agencies and activities committed to its care. (S)

POWERS AND DUTIES OF THE SUPERINTENDENT.

(17) The superintendent of schools should possess the following powers and be charged with the following duties:

(a) To serve as the chief executive officer of the board in its conduct of the schools and of other agencies and activities committed to its care. (S)

(b) To attend all regular and special meetings of the board, and to cooperate and advise with all committees of the board. (S)

(c) To exercise the right to speak on all matters before the board, but not to vote. (S)

(d) To enforce all provisions of law and all rules and regulations relating to the management of the schools and other educational, social, and recreational agencies and activities under the direction of the board of education. (S)

(e) To prepare and submit to the board for approval by-laws, rules, and regulations needed for the direction and control of the schools and other agencies and activities under the charge of the board. (S)

(f) To prepare, in conference and cooperation with the directors and supervisors of special departments, principals, teachers, librarians, and other competent members of the organization, the content of each course of study authorized by the board of education. (S)

(g) To select, in conference and cooperation with the directors and supervisors of special departments, principals, teachers, librarians, physicians and nurses the textbooks and other books, apparatus, maps, charts, tools, equipment, and all other supplies and appliances needed for the activities of the schools and other agencies under the care of the board. (S)

(h) To determine the boundaries of school attendance subdistricts, subject to the approval of the board. (S)

(i) To investigate the need of and recommend to the board provision for school facilities in the several subdistricts. (S)

(j) To have charge of the operation and maintenance of the buildings and equipment of the schools and other agencies under the board, the maintenance of grounds, and the purchase, storage, and distribution of books, maps, charts, apparatus, tools, and all other equipment, materials, and supplies. (S)

(k) To have charge of the system of certification of all teachers and other employees, except as otherwise provided for by law, and to prepare, as occasion demands, eligible lists for all types of positions. (S)

(l) To nominate as needed the assistants, directors and supervisors of special departments, principals, teachers, physicians, nurses, librarians, janitors, clerks, stenographers, and other employees authorized by the board. (S)

(m) To recommend, subject to the approval of the board, the salary to be paid each official or employee of the board. (S)

(n) To have supervision and direction of assistants directors, and supervisors of special departments, principals, teachers, librarians, physicians, nurses, attendance officers, janitors, and other persons employed in the conduct of the schools and other agencies under the board. (S)

(o) To assign principals, nurses, janitors, librarians, and other employees to the schools or other place where their work is to be done; to transfer them from one school

or other place of work to another; and to report immediately such transfers to the board for consideration and action. (S)

(p) To assign teachers to schools, grades, classes, and courses according to the needs of the service; to transfer teachers from one school to another, from one grade to another, from one class to another, according to the needs of the service; and to report immediately such assignments and transfers to the board for its consideration and action. (S)

(q) To report to the board violations of regulations and cases of insubordination; and in cases sufficiently grave to warrant it, suspend any official or employee under the direction of the superintendent until the next regular meeting of the board when all the facts relating to the case shall be submitted to the board for its consideration and action. (S)

(r) To recommend for discharge or retirement any employee under his direction whose influence or services are so unsatisfactory as to warrant such action, subject to the approval of the board. (S)

(s) To prepare, in conference with the business assistant and others in possession of the necessary facts, an annual budget, showing in detail the appropriations necessary to meet the estimated needs of the ensuing school year, and submit the same to the board for consideration and action. (S)

(t) To recommend to the board transfers from one budgetary appropriation to another as conditions may require. (S)

(u) To have power, within the limits of the detailed budget approved by the board, to approve and direct all purchases and expenditures, making report to the board at each monthly meeting, and at any other time when the board may request it; to report proposed detailed expenditures prior to action, whenever the board may request the same, for its consideration and action. (S)

(v) To have supervision and direction over all activities involved in the census, the enforcement of the attendance laws, the classification, grading, promotion, discipline, and the organization and management in general of the pupils and students.

(w) To have supervision and direction over courses of study, methods of educational procedure, the working conditions of pupils and teachers, standards of achievement, the supervisory labors of special supervisors, principals, and departmental heads, the training of teachers in service, the measurement of educational achievements, and every other professional factor, agency, or activity involved in the efficient conduct of education. (S)

(x) To make decisions in the case of controversies or conflicts arising in the administrative organization of which he is the head, subject to appeal to the board. (S)

(y) To decide all matters of detail purely ministerial and administrative in the application of laws, by-laws, rules, and regulations to the concrete situations that are met with; and to decide any matters that may arise concerning which no specific provision is made in the legislation, reporting his decisions at the next regular meeting of the board following such decisions. (S)

THE BUSINESS ASSISTANT AND CLERK OF THE BOARD.

(18) The business assistant to the superintendent and clerk of the board, before entering upon the duties of his office, should execute a bond in such sum as directed by the board, conditioned upon the faithful discharge of his official duties, and delivery to his successor of all district property pertaining to his office or in his custody.

(19) The business assistant, under the supervision and direction of the superintendent, should perform the following duties:

(a) Act as purchasing agent, receive, store, and distribute the books, supplies, apparatus, and other materials and appliances authorized by the board. (R)

(b) Represent the board in negotiations relating to the construction, repair, and maintenance of school property. (R)

(c) Recommend to the board through the superintendent such assistants, clerks, janitors, engineers, foremen, and mechanics as shall be needed for continuous employ in the department under his charge; and have authority to employ for brief periods such workmen as are necessary for the execution of the labors of his department, and to discharge the same. (R)

(d) Supervise all matters of repair, and have general charge of all buildings under the charge of the board. (R)

(e) Make and keep accurate and reliable real and personal property records which shall show the cost, time of purchase or acquisition, present value, and location of the property. (R)

(f) Cause the property of the board to be insured in such amounts as the board may from time to time direct, and keep a record of insurance placed on school property. (R)

(g) Make to the board through the superintendent written monthly report of the condition of the buildings and other property of the board, as to repairs, construction, and improvements, including such requests of principals as require action of the board, with recommendations thereon. (R)

(h) Draw up or examine all contracts and other engagements in which the board is a party. (R)

(i) Receive tuition fees, fines, money from the sale of books, shop construction, and other school property and services, from other buildings, and from other sources, except such as are paid to the treasurer of the board according to law, and deposit all moneys collected by him with the district treasurer at least once each month. (R)

(j) Audit all claims, approve all bills, and submit the same to the auditor of the board for audit and approval. (R)

(k) Audit all cash collections made by the agents of the board, and determine the kind of form of reports to be required of such collecting agents. (R)

(l) Keep the revenue and expense accounts, asset and liability accounts, budget allowance ledger, registers of purchase orders, vouchers and warrants, expenditure distribution record by schools, pay-roll records, registers of leases; rents, bonds, and building construction, and other contracts. (R)

(m) Draw all warrants in payments of claims against the board. (R)

(n) Submit to the board a monthly report of receipts, disbursements, and budget balances, and an annual report at the close of the fiscal year. (R)

(o) Act as custodian of all contracts, securities, documents, title papers, books of record, and other papers belonging to the board. (R)

(p) Have supervision and direction over the director of properties, janitors, and other continuous or temporary employees of the department under his charge. (R)

(q) Perform such other duties as may be assigned by the superintendent under the authorization of the board. (R)

(20) The business assistant, in his capacity of clerk of the board, should perform the following duties:

(a) Perform the usual functions of secretary to the board. (R)

(b) Keep the minutes of the meetings of the board, and a calendar of all matters referred to committees and others, and report action or nonaction on the same at each regular meeting. (R)

(c) Send written notices to board members of both special and regular meetings of the board, with calendar of all matters to be brought before the meeting so far as these are known at time of sending the notice. (R)

(d) Receive and reply to all communications to the board according to the directions of the board. (R)

(e) Perform such duties as are prescribed by law or by the by-laws of the board in connection with school elections of every kind. (R)

The legislation above suggested will provide for good organization and procedure upon the administrative level of the management. It is not possible here to enter into a full enumeration of all the laws, by-laws, rules, and regulations that should be enacted for the governance of the schools. The things to be provided for are very numerous and can be ascertained by an examination of the complete school code of West Virginia, or other States, together with an examination of manuals of rules and regulations of careful school boards.

MEETINGS OF THE BOARD.

One way of estimating the efficiency of the board is to note the regularity with which the members attend the meetings. For this purpose an examination was made of the minutes of the board, and the attendance noted during the three years from January 1, 1918, to December 31, 1920.

During this period, the board held 37 regular meetings, 9 special meetings, 1 adjourned meeting, and 7 meetings at which there was no quorum; total, 54 meetings.

Sixteen members have been connected with the board for the entire three years; of these, 1 member attended all of the 54 meetings; 1 attended 53, and 1 attended 51;

only 9 others attended more than 22 meetings. One member has attended but one meeting of the board in three years.

In 1918, when 16 meetings were held, 7 members attended only 8 meetings or less; in 1919, when 21 meetings were held, 8 members attended only 10 meetings or less; in 1920, when 17 meetings were held, 8 members attended only 8 meetings or less.

The following table shows the number of meetings held during the three years, and the number of members present at each:

TABLE 1.—Attendance of members at meetings of the board of education.

Number of members present.	Number of meetings.			Three years' total.	Aggregate attendance.
	1918	1919	1920		
18.....	1	.....	.....	1	18
17.....	.....	3	.....	3	51
16.....	1	1	2	4	64
15.....	2	3	4	9	135
14.....	3	2	3	8	112
13.....	2	3	4	9	117
12.....	3	3	2	8	98
11.....	2	2	1	5	55
10.....	.....	2	.....	2	20
9.....	2	1	1	4	36
8.....	.....	.....	.....	.....	.....
7.....	.....	1	.....	1	7
Total.....	16	21	17	54	771
Per cent of attendance.....	61.9	61.9	64.4	62.7	.....

Of the 54 meetings held during the three years, 7 had fewer than 11 members present, or a quorum; at only 8 meetings were there more than 15 members present; only 1 meeting was attended by as many as 18 members. The per cent of attendance of members for the 3-year period was 62.7. In this connection, it may be noted that the board requires 75 per cent performance from the children in the schools as a condition of promotion.

SCHOOL CENSUS.

A school census is taken annually in Wheeling, but it does not appear that the board makes any special use of the data thus secured, for no analysis has been made of the figures. Further, the work of enumeration is very carelessly done, and the reports are quite unreliable.

For example, an analysis of the 1920 school census figures was made by the survey staff, in order to ascertain how many children were reported of each age. A comparison of these figures with the figures for enrollment in nine public elementary schools and six parochial schools shows that there are enrolled in these schools 949 more children under 14 years of age than are accounted for in the census reports. Again, an analysis of the 1915 census enumeration was made, for comparison with corresponding figures of five years later. The total number of white children reported was 10,315; of these, the ages are not given in 2,182 cases, or more than 20 per cent of all. Of 238 colored children, the ages are not reported in 118 cases, or nearly 50 per cent of all.

Such reports are practically valueless, and payment for them is a waste of public money.

TABLE 2.—Comparison of school census with school enrollment, 1920—Number of children reported of each age.

Age in years.	Census enumeration, May, 1920.	Enrolled in—		Not in elementary schools.	Excess.
		9 public elementary schools, September, 1920.	6 parochial schools, September, 1920.		
Under 6.....	3	114	26	.....	137
6 to 6.5.....	7	259	87	.....	339
6.5 to 7.....	248	228	61	.....	41
7 to 7.5.....	383	249	124	10	.....
7.5 to 8.....	339	239	99	1	.....
8 to 8.5.....	322	245	128	.....	51
8.5 to 9.....	288	228	100	.....	40
9 to 9.5.....	326	259	110	.....	43
9.5 to 10.....	407	235	104	68	.....
10 to 10.5.....	339	270	89	.....	20
10.5 to 11.....	320	251	88	.....	19
11 to 11.5.....	320	272	147	.....	99
11.5 to 12.....	285	262	46	.....	23
12 to 12.5.....	322	295	126	.....	99
12.5 to 13.....	341	249	74	18	.....
13 to 13.5.....	332	245	108	.....	21
13.5 to 14.....	318	263	72	.....	17
14 to 14.5.....	344	203	59	82	.....
14.5 to 15.....	296	102	39	155	.....
15 to 15.5.....	337	67	24	246	.....
15.5 to 16.....	258	37	16	205	.....
16 to 16.5.....	354	9	7	338	.....
16.5 to 17.....	303	11	7	285	.....
17 to 17.5.....	294	1	.....	293	.....
17.5 to 18.....	294	1	.....	293	.....
18 to 18.5.....	336	.....	.....	336	.....
18.5 to 19.....	319	.....	.....	319	.....
19 to 19.5.....	327	.....	.....	327	.....
19.5 to 20.....	233	.....	.....	233	.....
20 to 20.5.....	254	.....	.....	254	.....
20.5 to 21.....	340	.....	.....	340	.....
Over 21.....	450	.....	.....	450	.....
Not reported.....	26	.....	.....	26	.....
Total.....	9,665	4,594	1,741	4,279 949 3,330	949

School census figures should be checked up more carefully to insure accuracy and completeness, and then they should be carefully analyzed and studied with a view to placing the facts before the board. These facts should include the number of children of each age who ought to be in school; where they live; how many are actually enrolled in public, private, or parochial schools; how many are working at gainful employment; other reasons for nonattendance at school.

Progressive communities are now supplementing the formal census enumeration by providing for cumulative record cards, to be made and kept up to date by the attendance department. The card contains information concerning residence, names and birth places of parents, date of birth of child, sex, nationality, kind and grade of school attendance or reason for nonattendance; name and address of employer and nature of employment if employed, etc. If such cards are kept up to date by the addition of names of children moving into the community the essential facts about every child of school age can be available at all times.

Early in each school term the census reports should be checked against the enrollment in the public, private, and parochial schools to ascertain what children are out of school. The attendance officers can then visit the homes of these children and follow them up. Census information, when properly digested and utilized, will thus function more completely in the administration of compulsory school attendance,

child labor legislation, and the granting of work permits. It will also prove valuable in studying the growth of the community and the shifting of population, and thus assist in planning school accommodations for the future.

III. FINANCES AND ACCOUNTING.

COMPARISON OF CITY SCHOOL EXPENDITURES WITH THOSE OF CITY DEPARTMENTS.

(a) City government enjoys the advantage of having the various city revenues to meet part of city expenses; whereas the schools must levy a tax for almost their entire expenditures. Therefore the tax rates of city and schools are not comparable, nor are they comparable with tax rates of other cities not organized in like manner.

(b) Comparison between city departments and schools should be made only on basis of expenditures. Of the total amount expended by both city and schools from 1917-18 to date the schools alone have expended but 35 per cent; schools and library together, 36½ per cent.

(c) School costs in Wheeling have doubled since 1915, but this is true also of schools throughout the country. Increase in teachers' salaries and increase in other costs, together with additional school activities, are responsible for increase in 1920 school tax.

(d) Other public expenditures in Wheeling have increased in even greater proportion than the schools. Since 1917 the expense of the city council has increased 224 per cent; bureau of streets, 144 per cent; bureau of fire, 142 per cent; bureau of police, 98 per cent; bond principal and interest, 95 per cent; bureau of health, 57 per cent; whereas the school expenditures have increased but 55 per cent. (See Table 1.)

TABLE 3.--Joint statement of city department, public school, and library expenditures for 1917-18, 1918-19, 1919-20, and estimated expenditures for 1920-21, Wheeling, W. Va.

Departments and activities.	1917-18		1918-19		1919-20		1920-21		Total.	
	Amounts.	Per cent.	Amounts.	Per cent.	Amounts.	Per cent.	Amounts. ¹	Per cent.	Amounts.	Per cent.
Bond principal and interest.....	\$84,220.96	9.2	\$99,410.60	9.7	\$94,890.00	7.2	\$163,836.96	10.8	\$432,344.51	9.4
City council and clerk.....	5,335.86	5.6	13,815.45	1.3	10,238.51	7.9	17,283.00	1.1	46,671.82	1.0
City manager and staff.....	48,174.55	5.0	38,262.97	3.7	47,677.03	4.1	55,452.36	3.6	187,567.01	4.0
Waterworks.....	115,992.67	12.7	136,439.01	13.2	110,767.30	9.4	184,159.16	8.8	497,358.14	10.7
Bureau of fire.....	81,179.34	8.8	95,637.45	9.3	175,930.67	15.0	195,641.62	12.9	548,389.08	11.8
Bureau of police.....	65,619.30	7.1	74,067.00	7.2	94,117.33	8.0	130,152.32	8.5	363,955.96	7.8
Bureau of streets.....	46,298.17	5.0	47,526.21	4.6	56,930.74	4.8	113,236.49	7.4	263,989.61	5.7
Electric light works.....	39,111.85	4.3	31,413.96	3.0	22,707.59	1.9	35,653.93	2.3	128,887.33	2.8
Bureau of health.....	37,145.04	4.0	50,151.16	4.9	39,318.71	3.3	58,400.00	3.8	185,014.91	4.0
Markets.....	2,894.80	.3	3,302.68	.3	2,954.63	.3	3,150.00	.2	12,302.11	.3
Wharves.....	371.25	.....	402.29	.....	400.33	.....	1,410.00	.1	2,583.87	.....
City's share in cost of special improvements ²	5,416.92	5.8	.....	.....	54,213.43	4.6	30,000.00	2.0	89,630.35	1.9
Miscellaneous.....	34,718.96	3.8	78,068.78	7.6	41,733.95	3.5	50,000.00	3.3	204,511.69	4.4
Total of city departments.....	554,478.77	61.4	668,487.56	64.8	741,874.22	63.0	988,363.83	64.8	2,963,206.38	63.8
Library.....	17,199.42	1.9	19,390.79	1.2	12,080.56	1.0	12,500.00	.8	54,160.79	1.2
Total of city departments and library.....	581,678.19	63.3	680,868.35	66.0	753,954.80	64.0	1,000,863.83	65.6	3,017,367.17	65.0
Public schools (independent school district).....	337,831.25	36.7	348,906.44	34.0	421,227.38	36.0	523,239.64	34.4	1,631,204.71	35.0
Grand total.....	919,509.44	100.0	1,029,774.79	100.0	1,175,182.18	100.0	1,524,103.47	.....	4,648,571.88	100.0

¹ Estimated: amount taken from budget estimates.² This item does not appear in the budget; the estimate is probably lower than the actual amount.

(e) City of Wheeling includes more taxable property than the independent school district; therefore city can raise as much money by a smaller tax rate as the schools can by a larger tax rate.

(f) Comparison between tax rates of 1919 and 1920 show school tax rate to have increased 54 per cent, and city tax (based on equal amount of taxable property to have increased 50 per cent.

(g) Conclusion to be drawn from the above is that school tax of 86 cents in 1920 is logical and in line with what other cities are doing for their schools.

COMPARISON OF WHEELING SCHOOL EXPENDITURES WITH THOSE OF OTHER CITIES.

(a) The taxable wealth in the independent school district of Wheeling for 1920 is \$65,404,955.¹ But a study of school taxation by 45 cities of 30,000 to 100,000 population in 1917-18 reveals the fact that Wheeling was considered as not assessing property on a 100 per cent valuation, and if so taxed its taxable wealth in 1917 would be \$93,534,000 instead of \$62,893,115 as given.

(b) In comparison with the same 45 cities, Wheeling ranks 33 as to total school expenses (excluding additions and improvements); it ranks 38 in expenses for general control; 32 in instruction cost (day school); 34 in cost of plant operation; 29 as to expenses for auxiliary agencies; and 26 fixed charges and interest.

(c) Wheeling's cost in 1919-20 per pupil average daily attendance as to total school expenses is \$76.69; for general control, \$3.16; for instruction (day school), \$54.13; operation of plant, \$7.34; upkeep, \$7.16; auxiliary agencies, \$2.26; fixed charges and interest, \$2.64.

THE ACCOUNTS OF THE WHEELING PUBLIC SCHOOLS.

(a) The public schools of Wheeling unfortunately, like numerous other school systems of the country, maintain no accounting system in the technical sense of the word. By this is meant a double-entry set of books from which balance sheets, operating, and other analytical statements may be currently drawn.

(b) The school accounts of Wheeling consist of a voluminous record of receipts and disbursements, a portion of which is duplication, with but little separation as to character of expenditure, and mixed up as to distribution of functional costs. There appears to be a misunderstanding as to which funds are the proper ones to make certain charges against and have the charges legal. Instances exist where abatements of expenditures are shown as revenues; and also the opposite, where abatements of revenues are shown as expenditures. Expenditures pertaining to different school years are not clearly segregated. Expenditures, such as repairs and improvements, are grouped together, although one is expense and the other investment.

(c) The annual financial statements of the schools are to be criticized as masses of undigested data, giving little information to the public, and of practically no value for administrative review.

(d) The method of filing is antiquated and the filing apparatus obsolete.

(e) As for the store records, it would be unfair to say that there are none, inasmuch as memoranda totals of quantities are occasionally made; but, nevertheless, the requisitions on which books and supplies are delivered from the storeroom are not priced nor extended and are therefore not recorded in any financially usable form.

(f) The schools are doing a business of from \$300,000 to \$400,000 (in 1919-20 it reached \$500,000; in 1920-21, \$619,425.36), but the accounting staff consists of one man who acts as clerk of the board, bookkeeper, cashier, paymaster, filing clerk, purchasing agent, and storekeeper. The only assistance he has is a portion of the services of a stenographer, who acts also in like capacity for the superintendent of schools.

¹ Including public utilities, \$72,026,205.

(g) Inquiry develops the fact that it has not been the policy of the board to authorize, or the clerk to request, attendance by him at annual conventions of school accountants where modern and advanced methods of school accounting are reviewed and discussed.

Dissection of School Accounts and Preparation of Balance Sheet, Operating and Other Financial Statements.

(a) The total value of school property in Wheeling, after deducting depreciation, is \$1,071,454.13. While it would cost twice this amount to replace it, this is the amount it approximately represents in modern educational values.

(b) In 1919-20 the schools expended \$421,227.38, of which \$376,427.47 (89.4 per cent) was for expense (salaries, supplies, and repairs); and \$44,799.91 (10.6 per cent) was for investment (additions and improvements).

(c) The total revenues were \$426,400.97, of which \$337,884.10 went to the school fund and \$88,516.87 to the building fund.

(d) The following show conditions as of June 30, 1920, and indicate the forms in which it is suggested that the several accounts be kept:

INDEPENDENT SCHOOL DISTRICT OF WHEELING, W. VA.

Balance Sheet (All Funds Together).

ASSETS.		LIABILITIES.	
Land.....	\$315,101. 66	Bonds outstanding.....	\$120,000. 00
Instructional buildings.....	650,652. 47	Accounts payable.....	2 46,138. 90
Instructional equipment.....	77,700. 00	Surplus.....	56,812. 49
Janitors' residences.....	28,000. 00		
Instructional supplies.....	1 5,000. 00		
Insurance (prepaid).....	1 500. 00		
Taxes receivable (delinquent) from current and prior years.....	1 5,000. 00		
Cash.....	51,312. 49	Investment of school corporation.....	910,815. 23
	<u>1,133,266. 62</u>		<u>1,133,266. 62</u>

Operation Statement (School Fund).

Expenses pertaining to 1918-19.....	2 \$4,021. 86	School fund revenues.....	4 \$337,884. 10
Expenses pertaining to 1919-20.....	371,405. 61	Excess of expenses over operation reve- nues.....	37,543. 37
	<u>375,427. 47</u>		<u>375,427. 47</u>

Capital Account Statement (Building Fund).

Investment pertaining to 1918-19.....	2 \$1,000. 00	Building fund revenues.....	6 \$88,516. 87
Investment pertaining to 1919-20.....	44,799. 91		
Excess of revenues over investment.....	42,716. 96		
	<u>88,516. 87</u>		<u>88,516. 87</u>

1 Estimated.
 2 Deficit in school fund June 30, 1920.
 3 These two items make a total of \$5,021.86, the school fund deficit on June 30, 1919.
 4 Available for school operation, upkeep, and miscellaneous expenses.
 5 Available only for additions and improvements.

TABLE 4.—Statement of property of the independent school district of Wheeling, as of June 30, 1920.

Items.	Total.	Land (original cost).	Instructional buildings.		
			Type of construc- tion.	Date.	Cost.
Total.....	\$107, 145, 413	\$31, 510, 166	.....	.....	\$65, 065, 247
Elementary schools.....	720, 393	123, 000	.....	.....	527, 693
Washington.....	52, 000	10, 000	Brick.....	1887	36, 000
Clay.....	52, 000	10, 000	do.....	1862	36, 000
Jefferson.....	46, 500	8, 000	do.....	1897	33, 000
Union.....	97, 000	15, 000	do.....	1908	73, 000
Center.....	51, 613	10, 000	do.....	1880	35, 113
Webster.....	84, 000	5, 000	do.....	1893	73, 000
Madison:					
Old building.....	212, 280	25, 000	do.....	1918	97, 514
New building.....		25, 000	do.....	1921	52, 066
Ritcher.....	61, 000	10, 000	do.....	1872	42, 000
McKinley.....	34, 500	5, 000	do.....	1887	25, 000
Lincoln ³	29, 500	(⁴)	do.....	1893	25, 000
Secondary schools.....	30, 895, 947	150, 000	.....	.....	12, 295, 947
High school—main building.....	28, 295, 947	140, 000	Brick.....	1915	11, 095, 947
Home economics building.....	26, 000	10, 000	do.....	(²)	12, 000
Athletic field.....	4, 210, 166	4, 210, 166	.....	(²)	.....

Items.	Instruc- tional equipment (cost).	Janitors' residences.		
		Type of construc- tion.	Date.	Cost.
Total.....	\$77, 700	.....	.....	\$28, 000
Elementary schools.....	41, 700	.....	.....	28, 000
Washington.....	3, 000	Frame.....	1887	3, 000
Clay.....	3, 000	Brick.....	1874	3, 000
Jefferson.....	2, 000	do.....	1897	3, 500
Union.....	5, 000	do.....	1884	4, 000
Center.....	3, 000	do.....	1882	3, 500
Webster.....	6, 000	(¹)	.....	.....
Madison:				
Old building.....	5, 500	} Frame.....	1889	4, 000
New building.....	3, 200			
Ritcher.....	6, 000	do.....	1890	3, 000
McKinley.....	2, 000	.....	(²)	2, 500
Lincoln ³	3, 000	Frame.....	1885	1, 500
Secondary schools.....	36, 000	.....	.....	.....
High school—main building.....	32, 000	(¹)	.....	.....
Home economics building.....	4, 000	.....	.....	.....
Athletic field.....	.....	.....	.....	.....

¹ Janitor has his residence within the school building.² Date of construction not obtained.³ Lincoln School is a school for colored children, and has both elementary and high-school grades.⁴ The grounds of the Lincoln School are a part of the city commons, and therefore title to the land is not vested in the board of education.

TABLE 5.—Statement of 1919-20 expenditures by character and function, as of June 30, 1920.

	Amount.	Per cent.
Total expenditures.....	\$421,227.38	100.0
Expense.....	376,427.47	89.4
Financing ¹	12,829.01	3.0
Direction and control.....	9,525.82	2.3
Teaching supervision.....	5,820.80	1.4
Instructional service.....	266,970.91	63.4
Operation of buildings and grounds.....	35,587.74	8.5
Upkeep of buildings, grounds, and equipment.....	34,736.45	8.2
Auxiliary agencies and other activities.....	10,956.74	2.6
Investment.....	44,799.91	10.6
Additions and improvements.....	34,799.91	8.2
Bond payments.....	10,000.00	2.4

¹ Interest on bonds, interest on bank overdrafts, commission to city collector on collections, and fidelity insurance.

TABLE 6.—Statement of revenues for 1919-20.

Items.	School fund.	Building fund.	Total.
Total.....	\$337,884.10	\$88,516.87	\$426,400.97
Cash balance, July 1, 1919.....		33,031.51	33,031.51
Federal aid (Smith-Hughes fund).....	1,074.25		1,074.25
State funds ¹	34,879.51	5,449.31	39,828.82
Local taxes:			
In 1919-20.....	292,462.74	48,483.12	340,945.86
Delinquent from prior years.....	4,738.95	752.42	5,491.37
Tuition fees.....	1,384.46		1,384.46
Sales of material and supplies.....	1,679.38		1,679.38
Depository interest.....	1,741.09	472.70	2,213.79
Miscellaneous revenues.....	423.72	327.81	751.53

¹ Not funds in the nature of State aid, but funds representing a tax on corporations and penalties upon estates of deceased, collected by the State in Wheeling and so returnable to the locality.

TABLE 7.—Consolidated balance sheet as of June 30, 1920 (all funds).

ASSETS.		LIABILITIES.	
Fixed property:		Funded debt:	
Land.....	\$315,101.66	Bonds outstanding.....	\$120,000.00
Instructional buildings.....	650,652.47	Capital investment.....	951,454.13
Instructional equipment.....	77,700.00		
Janitors' residences.....	28,000.00		
Total.....	1,071,454.13	Total.....	1,071,454.13
Current assets:		Current liabilities:	
Stores (instructional supplies)....	¹ 5,000.00	Accounts payable.....	(⁶)
Insurance (prepaid and unearned)	² 500.000	Surplus.....	15,673.59
Taxes receivable (delinquent)....	³ 5,000.00		
Cash—Building fund....	\$51,312.49		
School fund.....	46,138.90		
Total.....	15,673.59	Total.....	15,673.59
Grand total.....	1,087,127.72	Grand total.....	1,087,127.72

¹ Estimated on hand at end of fiscal year.
² Estimated.
³ Delinquent taxes of current and prior years.
⁴ Credit balance, representing overdraft on bank.
⁵ Accounts payable undoubtedly existed at this time, but they were not readily obtainable from the accounts as maintained.

TABLE 8.—*Operation statement (school fund) as of June 30, 1920.*

DEBITS.			
Deficit from 1918-19.....	¹ \$4,021.86	Revenues 1919-20.....	² \$337,884.10
Expenses of 1919-20.....	371,405.61	Excess of expenses over operation reve-	
		nues.....	³ 37,543.37
Total.....	375,427.47	Total.....	375,427.47

¹ This amount, with the \$1,000 payable from 1918-19 building fund, makes a total of \$5,021.86, the deficit in school fund at close of 1919-20. The payments being made in 1920-21 are arbitrarily distributed as above into expenses and investment.

² Available for operation and upkeep of schools and for miscellaneous expenses.

³ The difference between the building fund surplus (\$42,716.96) and the school fund deficit (\$37,543.37) is \$5,173.59, which is the amount shown as *net* cash on the balance sheet. In these two statements the technical entries necessary to show balances to agree with bank balances (credit and overdraft) are omitted.

TABLE 9.—*Capital account statement (building fund) as of June 30, 1920.*

DEBITS.			CREDITS.
Accounts payable from 1918-19.....	\$1,000.00	Balance from 1918-19.....	¹ \$33,031.51
Investment for year 1919-20.....	44,799.91	Revenues from 1919-20.....	¹ 55,485.36
Excess revenues over expenditures.....	42,716.96		
Total.....	88,516.87	Total.....	88,516.87

¹ Available only for additions and improvements.

TABLE 10.—*Balance sheet as of June 30, 1920.*

(Library fund.)

ASSETS.			LIABILITIES.
Fixed property:		Reserves:	
Land.....	\$20,063.68	Reserves for depreciation of—	
Buildings.....	36,207.73	Buildings.....	¹ \$3,500.00
Equipment—		Equipment.....	¹ 17,250.00
Books.....	41,664.98	Capital investment.....	84,340.71
Periodicals.....	4,058.28		
Library furniture.....	1,609.17	Total.....	105,710.00
Miscellaneous.....	1,486.87		
Total.....	105,090.71	Current liabilities:	
Current assets:		Accounts payable.....	(²)
Taxes receivable (delinquent).....	¹ 150.00	Surplus.....	1,816.65
Prepaid expenses.....	¹ 50.00	Total.....	1,816.65
Cash.....	1,616.65	Grand total.....	106,907.36
Total.....	1,816.65		
Grand total.....	106,907.36		

¹ Estimated.

² Not easily obtainable from the accounts as maintained.

TABLE 11.—*Operation statement.*

EXPENDITURES.			REVENUES.
Financing.....	¹ \$164.89	Cash balance, July 1, 1919.....	\$2,541.04
Library administration and service.....	5,474.38	State (transmitted by State auditor)...	¹ 1,054.00
Building operation.....	2,422.02	Local taxes—	
Upkeep of building and equipment.....	1,101.32	1919-20.....	9,383.83
		Delinquent from prior years.....	151.77
Total expenses.....	9,162.61	Book fines.....	400.30
Investment (additions and improve-		Depository interest.....	75.40
ments).....	2,917.97		
Total expenditures.....	12,080.58	Total.....	13,007.36
Excess of revenues over expenditures...	1,616.65		
Total.....	13,697.23		

¹ Commission to city collector on collections.

² Tax on local corporations; also penalty tax on estates of deceased.

TABLE 12.—*Independent school district of Wheeling, W. Va.—Expenditures for fiscal year, 1919-20.*

	Per cent.	Amount.
Financing:		
Commission on collections (city collector).....	1.3	\$5,704.55
Interest on bonds.....	1.3	5,625.50
Interest on bank overdrafts.....	.2	718.96
Fidelity insurance.....	.2	780.00
Total.....	3.0	12,829.01
Direction and control:		
School elections.....		
Board of education and clerk's office.....	.7	2,761.58
Legal services.....	.1	610.00
Superintendent's office.....	1.1	4,629.94
Enforcement of compulsory attendance laws.....	.4	1,445.00
Census enumeration.....		79.30
Total.....	2.3	9,525.82
Teaching supervision:		
Industrial education.....	.3	1,405.98
Home economics.....	.3	1,180.47
Physical instruction.....	.2	641.33
Health instruction.....	.1	299.22
Music.....	.2	841.25
Drawing.....	.1	635.05
Penmanship.....	.2	817.50
Total.....	1.4	5,820.80
Instructional service:		
Day school—		
Elementary instruction—		
Undistributed.....	4.8	¹ 20,187.39
White schools.....	39.8	167,246.62
Colored schools.....	2.7	11,338.33
Total.....	47.3	198,772.34
Secondary instruction (high school)—		
Undistributed.....	3.4	¹ 14,532.27
White schools.....	10.7	45,262.63
Colored schools.....	1.0	3,939.17
Total.....	15.1	63,734.07
Total day school.....	62.4	262,506.41
Night school—		
Secondary instruction—white school.....	.6	2,699.50
Summer school—		
Secondary instruction—white school.....	.4	1,765.00
Total instructional service.....	63.4	266,970.91
Operation of buildings and grounds:		
Day school—		
Elementary schools—		
Undistributed.....	.1	² 555.67
White schools.....	5.8	24,422.43
Colored schools.....	.4	1,687.48
Total.....	6.3	26,665.58
Secondary schools—		
Undistributed.....		¹ 7.60
White schools.....	2.0	7,858.34
Colored schools.....	.1	599.34
Total.....	2.1	8,465.28
Total day school.....	8.4	35,130.86
Night school—		
Secondary school—white school.....	.06	242.74
Summer school—		
Secondary school—white school.....		54.14
Athletic field—undistributed.....	.04	160.00
Total operation of buildings and grounds.....	8.5	35,587.74

TABLE 12.—*Independent school district of Wheeling, W. Va.—Expenditures for fiscal year, 1919-20—Continued.*

	Per cent.	Amount.
Upkeep of buildings, grounds, and equipment:		
Elementary schools—		
Undistributed.....	0.1	2400.29
White schools.....	6.4	27,075.64
Colored schools.....	.1	550.02
Total.....	6.6	28,124.95
Secondary schools—		
White schools.....	1.6	6,428.16
Colored schools.....		183.34
Total.....	1.6	6,611.50
Total upkeep of buildings, grounds, and equipment.....	8.2	34,736.45
Auxiliary agencies and other activities:		
Promotion of health of school children.....	1.7	7,101.80
After-school playground supervision.....		98.50
Lectures, graduation exercises, and celebrations.....	.1	535.75
Participation in expenses of Mozart School ⁴		940.00
Contribution to teachers' pension fund.....		2,280.00
Total.....	2.6	10,956.74
Investment:		
Additions and improvements—		
Land and improvements to land.....	4.1	17,444.00
Buildings and heat, light, and plumbing equipment.....	2.7	11,598.01
Instructional equipment.....	1.3	5,402.90
Miscellaneous equipment.....	.1	355.00
Total.....	8.2	34,799.91
Payment of bonds (increase in ownership)—high-school bonds.....	2.4	10,000.00
Total investment.....	10.6	44,799.91
Total expenditures.....	100.0	421,227.38

¹ Teaching service of industrial education, home economics, physical instruction, etc., not distributed by school buildings.

² Miscellaneous building operation expenses not distributed by school building.

³ Miscellaneous upkeep expenses not distributed by school building.

⁴ The Mozart School expenditures are shared by three different school districts, of which the independent school district of Wheeling is one.

(e) The point that referendum approval of a bond issue authorizes a tax levy for a bond principal and interest fund in addition to other school taxes seems never to have been considered by the board.

(f) The legality of the school levy for 1920, which includes a tax for high school, from a reading of such sections of the school law as could be found, appears questionable. But the law which relates to the independent school district of Wheeling is such a matter of patchwork that the question is probably only to be solved by an extensive legal search and then confirmed by a court ruling.

(g) The present policy of the board in regard to the teachers' pension fund as to appropriating a sufficient amount yearly to pay pension annuities without the principal of the fund being impaired should be incorporated permanently in the rules and regulations of the board.

(h) A statement of the expenditures of the schools in 1919-20 by functions has been prepared in detail and will be shown as an appendix to the report.

THE PUBLIC LIBRARY.

(a) Prior to the present year, when the board increased the library tax from 1½ to 1½ cents, Wheeling has taken advantage of but one-fourth of its authorized power to tax 6 cents per \$100 for library purposes.

(b) Compared with 10 years ago the activities of the library have more than doubled.

(c) A balance sheet prepared for the library as of June 30, 1920, shows its net investment to be \$84,340.71, and its surplus \$1,816.65.

(d) An operating sheet for 1919-20 shows an excess of revenues over expenditures to the amount of \$1,616.65.

(e) A graph, covering period of the last 10 years, shows book circulation and cost per 100 books circulated. The cost of library administration and book service is so low as to merit criticism rather than commendation. A per capita circulation in Wheeling of 1.9 and a cost of \$8.37 does not show the liberality of such cities as Chicago, Cleveland, and Pittsburgh, which have a per capita circulation of 2.2, 4.8, and 2.5, respectively, and which expend \$10.30, \$13, and \$28.10 per 100 books circulated. (Analysis of library expenditures of those cities in 1916-17.)

(f) Chicago spends 22.2 cents, Cleveland 62.6 cents, and Pittsburgh 69.9 cents per capita for public libraries; whereas Wheeling spends 21.4 cents. Obviously Wheeling should begin the construction of branch libraries and be more liberal in its expenditures for library personnel and in its purchase of books.

CONSTRUCTIVE RECOMMENDATIONS FOR SCHOOL FINANCIAL AND BUSINESS PROCEDURE.

(a) What is vitally necessary for the schools is the establishment of a business department to be headed by a subexecutive who shall report to the board via the superintendent of schools.

(b) Such a department should contain an accounting staff of adequate size to furnish the superintendent, the board, and the public the same kind of financial and statistical information as is commonly required by any first-class business concern.

(c) Modern accounting methods and procedure should be adopted.

(d) Up-to-date filing apparatus should be installed; likewise other labor-saving devices wherever practical.

(e) All contracting and purchasing should clear through this department, and a complete system of stores control should be put into effect.

(f) All janitorial and repair service should be under the technical control and supervision of this department, and under the managerial supervision of the various school principals.

(g) This department should be emphatically a service agency to the school system as a whole, to the superintendent, and to the board.

(h) A modern budget system should be adopted by the board. Such a budget should be prepared on the basis of functions and should include the originating of departmental estimates by the heads of the various school departments. These estimates should be transmitted to the business department for combination and analysis, and then be forwarded to the superintendent for review. He, as the schools' executive, should be responsible for the budget in its entirety, and in its presentation to the board it should represent the policy and program which he recommends for the schools for the ensuing year. The function of the board should then be the approval or disapproval in total or in part of the budget as submitted. Upon its approval and formal adoption by the board the budget should be the superintendent's legalized authority for the ensuing year's expenditures, and he should be the administrative official to be held responsible for the board for the execution of the budget as approved.

(i) An amendment to the school code should be immediately presented to the legislature, which will make mandatory the adoption of the school budget for the ensuing year prior to the close of each fiscal year, and thus eliminate the hiatus of financial authority which at present exists between the beginning of a school year and the date prescribed by law for the adoption of the budget by the board several weeks later.

IV. SCHOOL BUILDINGS AND GROUNDS.

DIFFICULTIES INHERENT IN THE SITUATION.

The city of Wheeling is so crowded between the hills and the river that there are really no vacant spaces suitable in size, contour, and position upon which to locate schoolhouses in any satisfactory way, and therefore the school board is faced with great difficulty when the problem of selecting new sites arises. One of two things will have to be done if the board insists on proper sites, as it should: It will be necessary either to enter extensive condemnation proceedings in order to clear spaces large enough, or else accessible sites must be found beyond the ordinary limits of the city and some arrangements made for transportation to these.

It is recommended, therefore, that the board take this matter in hand at once, and after due consideration and public discussion settle on a policy to pursue when future buildings are under consideration. Each school principal, with the cooperation of his teachers, should be asked to prepare a "pin map" showing where the students now attending school live. These maps will show at a glance from what parts of the city the children come and how, relatively, they are situated with reference to the present buildings. If such maps are prepared each year, then objectively they will show any possible shifting of the clientage and a hint at least of how to anticipate needs.

SURROUNDINGS AFFECT THE EFFICIENCY OF A SCHOOL.

In addition to the problem of congestion as it relates to needed sites, the problems of dust and noise should receive more consideration than heretofore. Union School site is a horrible example of selecting a lot too close to a noisy, dirty, and dangerous railway; and the Ritchie School is not much better off.

The present school lots are totally inadequate in size to permit any playgrounds of real consequence. A real school playground, big enough to satisfy school children, is the best democratizing agency possible, and far more effective most of the year for health development than any gymnasium.

ORIENTATION AND LIGHTING.

Classrooms of school buildings are best lighted and best purified by sunshine when the windows open toward the east or west only.

The lighting of all the school buildings in Wheeling is seriously faulty. In the first place, all the classrooms where it was possible have bilateral lighting. This is bad, and all thoughtful teachers know it. Under such conditions either the teacher or the pupils must face toward windows.

In most cases the pupil is compelled to work in his own shadow, and because of cross lights he is handicapped in many other ways.

In all future buildings the house should be so planned and set on the lot as to give east or west exposure on the long side of all classrooms, and no windows should be set in other walls. These windows, at least five in number, should be set with sills 4 feet above the floor, and should run to the ceiling, or as close to the ceiling as possible. They should be grouped closely together, and the glass area should be approximately one-fourth of the floor area.

Adequate reasons for these directions may be found in any good book on school hygiene.

HEATING AND VENTILATION.

The hot-air heating systems found in most of the present school buildings do not represent the best practice, nor the most economical for school buildings. A low-

pressure steam heating plant is the best. Direct radiation in the rooms with thermostatic regulation, but without the use of fans, will in the long run prove most efficient.

ADEQUATE SUPPLIES OF FRESH AIR ESSENTIAL.

It is almost impossible with hot-air furnaces to keep the various rooms evenly and properly heated and healthfully ventilated. In future buildings low-pressure steam heating should be installed, with ample radiation in each room, controlled by thermostats, and teachers should be required to regulate the ventilation through properly constructed windows.

JANITOR SERVICE.

The janitor service in the school buildings of Wheeling is, with few exceptions, inferior, and the prime cause of this inefficiency is due mainly to the fact that the janitors are not placed directly and specifically under the direction and control of the principals of the various schools. There should be no divided responsibility here. The principal should be held responsible for the hygienic condition and safety of the building, and this responsibility necessarily carries with it authority over the service of the janitor.

The janitors should be well paid for their arduous services, and should be selected and retained by reason of their efficiency and ability to perform their very important duties. Next to the principal of the school, the duties and opportunities of the janitor call for good judgment, initiative, and special knowledge almost as much as do those of any teacher.

Many liberties are now being taken by the janitors of some of the buildings, such as storing their own furniture, vegetables, canned goods; doing their own family washing during school hours, etc., in school buildings. Such use of school buildings is not desirable, and should be discontinued.

FLOORS OF SCHOOLHOUSES.

The school buildings of Wheeling were originally furnished with unusually good floors, but they have been badly abused and show lack of proper care. Most of the old buildings were supplied with fine oak floors, and these have held up well under the abuse they have been subjected to. They are now dry; cracks have opened, and splinters are appearing. This is largely due to the wet scrubbing they have had to undergo.

Floors should never be scrubbed with soap and water, for this is the surest and quickest way to ruin them. They should be sanded and swept clean, and then oiled and swept with some sawdust preparation containing the proper proportion of oil, sand, and sawdust. This will keep the floors cleaner, prevent clouds of dust from rising, and also prevent the boards from alternately swelling and shrinking, as will be the case when scrubbed with soap and water.

FLOORS SHOULD BE CLEANED AND OILED.

All the floors of the various buildings should be thoroughly cleansed and then cautiously and properly oiled with a light oil. Oiled floors are more free from dust, last longer, look better, save work in keeping them clean, and are more hygienic than dry floors.

COLOR OF WALLS.

The treatment given to the walls of the schoolrooms in Wheeling generally violates not only the canons of good taste but the requirements of utility. Not only are many of the rooms unsightly and esthetically annoying but the effect is even harmful, in that the rooms are darkened when more light rather than less is needed.

Scientific investigation has determined in no uncertain terms the colors which are best to use on schoolroom walls, and school boards should make sure that a decorator who enters a schoolroom knows what is best and will then faithfully follow intelligent guidance.

The following brief summary of suggestions resulting from investigations on this subject may be helpful in planning future changes:

1. The wall space between the floor and the window sills, and the chalk troughs, should be a light brown.

2. Side walls and ceilings should be in a light buff, or cream, depending to some extent on the illumination and the location of the building with reference to climate. A light gray is also acceptable. Colors from the red end of the spectrum should never be used.

CLOAKROOMS.

Cloakrooms are necessities in all elementary schools, and locker rooms for high schools. The plans of the older buildings in Wheeling made insufficient space for cloakrooms, and as a result the children's wraps and other articles of clothing are often piled up together, thus offering opportunity for the transmission of parasites from child to child and also preventing proper airing or drying in damp or rainy weather.

BLACKBOARDS.

The various school buildings of Wheeling are supplied with excellent slate blackboards, and in general these are in splendid condition. However, they are not always set at the proper height to meet the needs of the children through the various grades.

In all future buildings, in those rooms designed for first and second grades, the blackboards should be set 26 inches above the floor; in those for the third and fourth grades, 28 inches above the floor; in those for the fifth and sixth grades, 32 inches above the floor; and in those for the seventh and eighth and high-school grades, 36 inches above the floor. The blackboard should be 36 inches wide, from top to bottom, except at the teacher's end of the room, where it should be 48 inches wide.

STAIRWAYS AND FIREPROOFING.

If the furnaces, coal rooms, chimneys, stairways, and halls of school buildings are made fireproof; if janitors are careful to keep all greasy mops or rags, oils, and other inflammable materials in fire proofed rooms; and if all electric wiring is inclosed in steel tubes and otherwise properly protected, then there is little danger to the children or to the buildings from fires starting from within. Should a fire menace from without there will always be ample time to get the children out before they are endangered.

There is little or no value in fire escapes for school children, because with safe and adequate stairways they can be gotten out of danger by means of carefully planned and thorough fire drills in less than one-tenth of the time, and with far greater safety, than through any fire escape ever made. The chief effect of fire escapes at public-school buildings of two stories (and they ought not to be any taller) is to produce a feeling of false security in the minds of parents.

CONSTRUCTION OF STAIRWAYS AND EXITS.

Stairways should have ample landings, wide treads, medium risers, and strong, properly placed handrails. They should be well lighted and sufficient in number and capacity to meet safely all possible demands.

Many, in fact, nearly all, of the older school buildings in Wheeling are a fire menace, because practically none of the precautions of construction noted above have been complied with. Hence, janitors should be constantly on guard, and should not be permitted to leave their buildings during school hours. Elsewhere this report emphasizes the need of keeping basements from débris.

SIZE OF CLASSROOMS.

Forty pupils are enough for a teacher to handle in the elementary grades, and a classroom 30 feet long, 22 feet wide, and 12½ feet high is sufficient space for this number of pupils. This will accommodate five rows of desks, with eight in a row, and allow sufficient room for aisles and other necessary space. Many of the classrooms in the old buildings are more nearly square, and contain considerably more cubic feet of space than necessary. This increased the cost of the buildings unnecessarily, and likewise has constantly demanded more heat, more cleaning, and more expense for general upkeep.

Classrooms for high schools must vary to accommodate large, medium, and small classes. Satisfactory dimensions and arrangement of rooms can be arrived at only when the architect consults with the principal and teachers who are to use the particular building in question.

TOILETS AND URINALS.

All toilet seats should face toward windows, and should be set along walls in single rows, and not back to back. Such rooms should be arranged in stacks on the main floors and kept out of basements. These rooms should open out of rest rooms, lavatories, or locker rooms, and not directly into halls. If possible, direct-pressure wash-out fixtures should be installed. Juvenile sizes should be installed for the first four grades at least. All urinals should be set under windows and furnished with glazed white stalls and set a little below the level of a tiled floor. While this floor should slope slightly toward the urinals, it is a serious blunder to make this slope too far back.

The best fixtures are in the long run most economical. Toilet rooms must have plenty of light and sunshine and abundant ventilation.

PLACING DESKS.

If desks are fastened to the floor, great care must be taken to space them properly, and at about 2½ inches minus distance. That is to say, a vertical line from the edge of the desk to the floor should strike the seat board about 2½ inches back from its front edge. Desk chairs are better, for these can be selected in a number of sizes, and can be shifted to take advantage of conditions and demands. They are not fastened to the floor, and can therefore be adjusted more readily to individual children.

STORAGE OF FURNITURE AND OTHER DISCARDED MATERIAL.

Every city system of schools should have a central storage building and shop facilities, into which to check all surplus furniture where repairs may be made, and where lists of all temporarily unused equipment may be kept. Under this plan, whenever any item of furniture, material, or supplies is needed in any building, the superintendent can quickly and accurately determine whether the item requisitioned is available or whether it is necessary to purchase.

SUMMARY OF BUILDING NEEDS.

MCKINLEY SCHOOL.

The lighting of the classrooms in this building is bad and has been from the first. Whenever windows are placed on two sides of a classroom either the teacher or the pupils will have to face glaring windows.

It is possible to take two of the windows from the north and south ends of these rooms and set them in the east and west walls, and to close up the third window to the north and south. While this will give far better illumination than is now provided,

it will not furnish the requisite ratio of glass surface to floor surface for any of the rooms. There seems to be no remedy for this deficiency, because the classrooms were not properly proportioned as to length and width when the building was planned.

The walls in this building should be refinished in a light color. A light creamy buff, or a very light gray is safe and acceptable. The present disagreeable green is not only annoying to sensitive children but also absorbs a great deal of needed light.

The floors of this building have been badly damaged by repeated scrubbing, and should be thoroughly cleaned and then oiled.

RITCHIE SCHOOL.

The old building of this school should be discarded at the very earliest opportunity, for it would cost more to reconstruct it to meet modern demands than to construct an entirely new building. No money should be expended on this building, save that which is necessary to keep it as safe and clean as possible during the time it may be used.

The basement should be thoroughly cleaned of all rubbish and broken and discarded furniture.

When this building was inspected by the representative of the survey commission, it was necessary to send for the janitor, who could not be found about the building. There is too much at stake, with a building occupied by children, to allow any possible danger to arise without some responsible person at hand to take immediate action. If some imperative mission takes the janitor away from the building during school hours, some other responsible person should be substituted until his return. In every such case the principal should approve the arrangements in advance.

The ventilation of neither building at this school is adequate, and the teachers should all be carefully directed how to use the windows most effectively for this purpose.

Unfortunately, the newer building is situated so close to the railroad tracks that effective school work is practically impossible.

With the exception of bilateral lighting, setting the windows too near the floor, and insufficient cloakroom space, this annex is quite satisfactory as far as the building is concerned.

The fan room needs cleaning, and the fine maple floors provided should be thoroughly cleaned and oiled immediately, and scrubbing with water discontinued.

WEBSTER SCHOOL.

No expensive changes looking toward making this building meet acceptable modern demands should be undertaken. It should be kept in as good condition as possible, and abandoned at an early date, as soon as a new and modernly planned larger building can be provided to take care of the children in this district and most of those now attending the Ritchie School.

The following repairs should be made at once: (1) Correct the insanitary condition of the urinal; (2) cut down the sides of the stalls in both toilet rooms, so to give better light and better ventilation; (3) clean out the basement, especially the fan room; (4) retint the walls in a light cream color; (5) oil the floors, and discontinue scrubbing them with water; and (6) guard the building carefully to prevent fires.

CENTER SCHOOL.

No expensive repairs should be made on this building, and it should be abandoned as soon as the board can command the means to do so.

MADISON SCHOOL.

It is unfortunate that in the reconstruction of the old building the windows were not changed from the old type of windows in adjoining walls of classrooms to the better plan of unilateral lighting. It is probably inadvisable to make these changes now, but the children and teachers will necessarily suffer as a result of this oversight.

It is not too late, however, to correct the faults of the toilets and urinals by installing modern appliances in a modern way. The white walls of this reconstructed building should be tinted in a very light buff, while the ceilings may either remain white or, better, be toned down so as to forestall glaring lights.

It is to be regretted that the assembly room was constructed at great expense with a sloping floor, thereby practically limiting its use to auditorium purposes only. At less expense in construction and furniture, it might have been made to serve as an auditorium, as a gymnasium, a study hall, a community entertainment and exhibition room, and for other purposes.

It is inadvisable to put manual training, home economics, or any other kind of important school work in basement rooms, and those classes now situated in the basement of this building, or any other school in the city, should be removed therefrom at the earliest possible date. Such work is very important work, and should not be handicapped by being put in unsuitable quarters.

WASHINGTON SCHOOL.

This building is a duplicate of the old Madison building, and is a monumental demonstration of how not to plan a school edifice. It would be poor economy to undertake a radical reconstruction of this building, and the only thing to do is to use it till such time as the board can get sufficient means to provide a new building in a better location away from the noise, smoke, and dust of the railway yards.

CLAY SCHOOL.

It would be unwise to undertake any substantial reconstruction of this building. It should be kept in as safe and sanitary condition as possible, until it can be displaced with a new building on a larger lot.

A few repairs and changes should be made immediately:

1. The hot-air ducts of the old and displaced heating system, leading from the furnace room to the various classrooms, should be carefully and securely sealed in order both to prevent dust and foul air ascending into the classrooms, and to eliminate the very definite fire hazard involved.

2. There should be better and more thorough fireproofing on the joists above the boilers and smoke pipes. The fire drills now used should be continued, and with every added improvement possible.

3. The urinal is unsatisfactory, for the slanting slate is too wide and too steep for safety. This should be cut off to a point within 16 inches of the drain, the level cement floor continued to this point, and the iron bar removed. These changes, for obvious reasons, will keep this room in a much better sanitary condition.

4. Certain rooms have erroneously placed desks, and these facts were pointed out to the principal and plans suggested for better arrangements.

JEFFERSON BUILDING.

An additional window should be set in the east side of each classroom opening toward the east, and one in each classroom opening toward the west, and the windows on the north and south sides of these rooms should be closed up.

The desks in the east rooms should all be made to face the south, while those in the west rooms should be made to face the north. Then, if these desks are grouped as closely as practicable to the window side, with eight desks in a row from front to back, in five rows, the pupils will then get light from the left and the teacher will not have to face the light.

While this arrangement will not give so much area of glazing to each room as they now have, the light will be much better and the teacher will not have to face the light.

The warm-air registers in the floors of the classrooms should be removed and placed in the walls, if possible, about 8 feet above the floor. If this can not be done, a better heating plant of low-pressure steam, regulated by thermostats, should be installed with direct radiation in the rooms. The fan should then be removed and dependence placed upon windows for ventilation. When the inspection was made, the ventilation was faulty and the rooms were too hot. This is a good building. With proper care, and the changes suggested, it can be used for many years safely and with satisfaction.

UNION SCHOOL.

This building is most unfortunately placed so near the steam railway tracks as to cause a great loss of time from noise and suffering from the gas-laden smoke of passing trains. There are many good features in this building despite bad fenestration. Nothing can be done to get rid of the noise, which will in all probability increase instead of decrease. It would be difficult and expensive to rearrange the windows, and so only the following recommendations are offered:

1. The thermostatic system is out of order, and should be corrected at once, for not only is the health of the teachers and children involved, but also the economic use of fuel.

2. There is a good deal of debris and furniture, some of it not belonging to the school, stored in the basement. All of this not needed should be removed and stored elsewhere.

3. The toilet seats should be kept in a more sanitary condition, and all flushing apparatus should be thoroughly cleaned and kept in better repair. Some of this apparatus was not working at all. As soon as possible, individual and direct flush toilet seats and enameled urinals should be installed. The former should all be set to face the windows, while the latter should be set directly beneath the window. This will insure better ventilation, a lighter room, and a great saving in water and electricity.

HOME ECONOMICS BUILDING.

The basement of this building is rather poorly ventilated, and is likely to be damp in summer. The furnaces are rather dangerously close to the joists above, and, though gravel has been placed on their tops, great care should be given these in severe weather, when heavy firing may become necessary, to prevent overheating and consequent danger.

HIGH SCHOOL.

The high-school building was miserably planned, and beyond that little can be said that will be of any help to the board. In the first place, the lot was totally inadequate and greatly handicapped the architect. In the second place, there is evidence everywhere that the plans were not submitted to those who know the needs of a modern high school, and that no one studied them carefully from the point of view of securing a serviceable and hygienic school building.

The lighting is faulty, many of the rooms are badly proportioned, the basement is cut up into dark cubby-holes and passageways, and exterior decoration seems to have been preferred to adequate lighting.

It is a painfully disappointing building. Nothing can be done in an economical way to remedy its defects or make it more useful and acceptable, and the youth who flock to it for many years to come will suffer because no one who knew what they needed was called to supervise its planning.

The only changes now practicable are a few readjustments of desks and classes so as to conserve the vision of the teachers and children, and a general cleaning up of the basement.

LIBRARY.

In view of the fact that no member of the survey commission has made a special study of the requirements of a library building, this report discusses only such general questions as those of heating, lighting, etc.

In the reading rooms the windows were set so near to the floor that it is impossible to set bookcases under them, and hence a mistake was made both from the point of view of the loss of book space and better illumination. The bottoms of windows for reading rooms should always be well above the level of the eyes of the reader when seated.

This is particularly true on the second floor. There the small windows drop almost to the floor line, while the tops are many feet below the ceiling above. It must certainly be true that the upper rooms of this building are very warm in summer, and that adequate ventilation is peculiarly difficult.

It seems evident that the plans of this building were not thoroughly studied from the point of view of use, and that much help might have come from calling upon practical librarians for suggestions.

LINCOLN SCHOOL.

The basement of this building needs cleaning and repairing, especially the cold-air chamber and the door leading to it. The girls' toilet needs better ventilation and lighting. The grounds in the rear should be drained and graveled. The electric lights in the domestic science room should be fitted with proper shades to reduce the glare of uncovered bulbs; and the forge better protected to prevent smoke and gas from escaping into the rooms above.

The recent additions made to this building were badly placed, because of the cutting off of light from other rooms. No further direct additions to this building should be made. If more room is needed, another building should be constructed on another lot, for the heating plant is now insufficient in severe weather for safety, and further additions would interfere with the lighting, already very bad.

V. THE BUILDING PROGRAM.

WHY WHEELING NEEDS A SCHOOL BUILDING PROGRAM.

The following paragraphs outline the main features of a school building program looking forward over a number of years. Action on these proposals should await decision on the more fundamental need of the Wheeling schools, namely, that of reorganization of the scheme of administration.

Nevertheless, one of the serious weaknesses in the school situation has been the lack of a comprehensive and forward-looking building program, guided by expert knowledge of the requirements of a modern school system. Even with a reorganized school board, therefore, the school buildings and equipment will need to be modified in order to make possible all of the improvements suggested in this report.

Modifications in the school building situation must necessarily be made gradually and only after careful study of possible future contingencies.

SCHOOL BUILDINGS DO NOT MEASURE UP TO MODERN REQUIREMENTS.

Wheeling's school plant is not modern. With the exception of Madison and Union, there has been no new elementary school for 24 years. Five of the 9 elementary schools were built 34 or more years ago. One was built 49 and another 50 years ago. The buildings are old and archaic in construction; in a number of them the sanitation is bad; and in others the lighting is so inadequate that in some States the children would be forbidden by law to enter them.

With few exceptions, the buildings are utterly lacking in modern educational facilities, such as auditoriums, gymnasiums, shops and laboratories, drawing and music rooms, libraries, and playgrounds.

IMPORTANCE OF WORK AND PLAY AS WELL AS STUDY IN SCHOOLS.

What Wheeling needs primarily is to realize that opportunities for work and play in school are educationally as important as provision for study. There has evidently been an attempt to provide some modern school activities in some schools, but they are very inadequate. One reason is because the public in general does not fully realize that children have always been educated through work and play as well as study, and that they can not be deprived of any of these three things if they are to receive a full, rich education.

Fifty years ago, children had opportunities for this healthy work and play outside of school so that it was not necessary for the school to provide anything but classrooms. But during the past 50 years has come the growth of the modern city, with its factories and mills, and office buildings and tenements which go up on all vacant city lots and which have deprived children of the opportunities for the wholesome work and play which are essential elements in their education. The city home or apartment, unlike the farm, with its many opportunities of "learning by doing" can offer few educational opportunities in the way of healthful work which develops the ability to think by attacking problems to be solved. There is no planting and harvesting to be done; few, if any, animals are to be taken care of; and it is a rare city home that has a workshop or laboratory. Yet children, until recently, have received much of their education through the opportunity to handle tools, to take care of animals, and to experiment in making and using things.

SCHOOLS MUST RECOGNIZE CHANGING COMMUNITY CONDITIONS.

But the city not only fails to educate children in the right direction; it educates them in the wrong direction, for the street, with its dangers to the physical and moral life of children, too often becomes their only playground; and street play means education, not in health and strength and wholesome living, but precocious education in all the vicious side of a city's life.

For these reasons it has come to be recognized that the city school must not only provide classrooms, but it must also return to the children the opportunity for the healthful work and play which the home can no longer supply. This means that school buildings must contain not only classrooms, but auditoriums, gymnasiums, laboratories, drawing and music rooms, shops, libraries, and playgrounds where these activities may be carried on.

The main problem in the building program is to recognize existing buildings and plan new buildings so that the children in each building may have not only classrooms, but modern educational facilities. How is such a program to be carried out within the financial ability of the city?

There are two methods of meeting the situation. One is by the traditional method of school organization in which all children are expected to be in school seats at the same time, and if provision is made for special activities, such as shops or cooking rooms, the classrooms remain vacant when such facilities are in use.

THE WORK-STUDY-PLAY OR PLATOON SCHOOL.

The other method is commonly known as the work-study-play or platoon plan now in operation in many cities in this country, notably in Pittsburgh, Pa., where the plan has been in operation for six years.² This plan makes modern educational facilities financially possible for all children by using all parts of the school all the time instead of letting classrooms lie idle while shops and laboratories are in use. That is, it applies the principle of the balanced load, or multiple use of facilities. Under this plan, a school is divided into two parts, each containing all grades, and while half the school is in classrooms, the other half is using special facilities. At the end of one or two periods, the group of children who have been in classrooms go to special facilities, and the other group goes to the classroom. This means that only half the usual number of classrooms is needed, i. e., 12 classrooms in a 24-class school. A classroom costs at the present time \$16,000 in most parts of the country. Therefore, by using 12 instead of 24 classrooms \$192,000 is saved and released for special activities. Under the work-study-play plan, every child gets the same amount of time for the three R's, but he also has 40 minutes for play a day, 40 minutes of auditorium, and 40 minutes of shop or science or drawing. Furthermore, because of the flexibility of the program, the school can be adapted to the needs of the child, instead of vice versa.

RECOMMENDATIONS FOR A SCHOOL BUILDING PROGRAM.

By abandoning 6 old buildings, putting up 3 new buildings, and putting in modern equipment in 3 existing buildings, it is possible for Wheeling to have a school plant in which *every* school shall have adequate classrooms and also an auditorium, gymnasium, shops, cooking and sewing rooms, science laboratories, drawing and music rooms, a library, and kindergarten. *And it is possible to do this within the financial limits of the city.*

The schools which should be abandoned ultimately are the Ritchie, McKinley, Clay, Jefferson, Center, and Lincoln. This will eliminate the costs of upkeep and outlays for these buildings, which in the year 1920 amounted to \$32,842.77. Wheeling has too many small buildings. The larger the buildings, within limits, the richer the facilities that can be given to children; the older and smaller the building, the more expensive it becomes. For example, the per capita cost of the Ritchie School with an enrollment of 510 pupils is \$59.10, whereas the per capita cost of Madison with 906 pupils is only \$45.35. A summary of recommendations for each school district follows.

RITCHIE DISTRICT.

Ritchie and McKinley Schools should both be abandoned, as they are old, insanitary buildings and archaic in construction. Erect in this district a new school building for a 24-class school which would house the children in both Ritchie and McKinley. Under the work-study-play plan, it would need 12 classrooms, 2 shops for boys, a domestic science and sewing room for girls, 1 drawing room, 1 music room, 1 mechanical drawing room, 1 library, 1 chemistry laboratory, and 1 physics laboratory. The total cost would be \$462,000. Under the traditional plan of school organization, it would be \$659,000. This school should be a combination elementary and junior high school. The high school is so far away and expensive to reach that the children are not likely to go to it from this district, unless their interest is aroused through this preliminary work. The way to increase the enrollment in the high school is by developing modern elementary schools.

² See Economic Values of the Platoon Type of School Organization, prepared by William F. Kennedy, with the McKeloy School of Pittsburgh, as a type illustration.

CLAY DISTRICT.

Clay and Jefferson Schools should be abandoned, as Clay is an old, insanitary building, and Jefferson is too small to maintain economically. Erect a new building for the Clay and Jefferson and the seventh and eighth grade pupils from the Union School, leaving Union as a 6-grade school. This school would also be a 24-class school. The cost would be the same as for the Ritchie School.

WEBSTER DISTRICT.

Center School should be abandoned and the pupils in Center and Webster housed in the Webster School. If this building is organized on the work-study-play plan, there would be ample room for the children of both schools. There would be 988 children, or a 24-class school. There are 18 classrooms in the building, a manual-training room, and a cooking room. Twelve of the classrooms could be used as classrooms, one for an auditorium (it was originally built for this purpose), one for a kindergarten, and the other six for special activity rooms. There is a playground a block and a half away, and a portable gymnasium could be erected there. The cost for equipment for the special activities and for the gymnasium would come to \$10,000. Under the traditional plan, 12 additional classrooms would be needed at a cost of \$192,000.

WASHINGTON DISTRICT.

Washington is a well-built school, and though not modern can be made to furnish modern educational facilities for children, if operated on the work-study-play plan. Allowing for a kindergarten and a ninth grade (for this should also be a combination elementary and junior high school), there would be 633 children, or 16 classes in the school. There are 16 rooms; 8 could be used for classrooms and the other 8 for special facilities—2 shops for boys, 1 drawing room, 1 music room, 1 nature-study room, 1 library, and 2 rooms for an auditorium. The lot to the south of the school should be purchased for an additional playground, and the house used for domestic science and a kindergarten. A portable gymnasium should be erected on the school grounds. The cost of equipment of the special activity rooms would be \$9,000, and the gymnasium \$3,500, making a total of \$13,500. On the traditional plan, 8 additional classrooms would be needed at a cost of \$128,000, and there is no space in which to erect them.

MADISON DISTRICT.

Madison School is a comparatively new building, and although unfortunately constructed in many ways, it is superior to many of the buildings. It should be made into a combination elementary and junior high school, which would give an enrollment of about 1,086, or 28 classes. This should be made into a 30-class school. Counting both the old and new buildings, there are 29 classrooms available without counting the manual-training room in the basement. Under the work-study-play plan only 15 classrooms would be needed. The other 13 rooms could be used as follows—1 chemistry laboratory, 1 physics laboratory, 1 freehand drawing room, 1 mechanical drawing room, 1 music room, 1 sewing room, 1 cooking room, 2 shops for boys, 1 nature study room, 1 library, and 1 kindergarten. Two rooms could be used for gymnasium for girls. A gymnasium for boys could be constructed between the left wing and the auditorium at a cost of approximately \$25,000. The cost of equipment for the special rooms would be \$7,500. The total cost, \$32,500. Under the traditional plan, 15 extra classrooms would be needed. They would cost \$240,000 and there is no space in which to put them up.

LINCOLN SCHOOL.

This is an old, inadequate building, placed inconveniently on a hill, which, if the Wheeling Improvement Association plans materialize, will be used for a national highway connecting with Greater Wheeling. The building should be abandoned and a new building erected at the foot of the hill near the Negro church. As this is a combination elementary and high school, the building would have to be constructed to accommodate 8 elementary classes and 2 high-school classes. Under the work-study-play plan, 4 classrooms would be required for the elementary school and 2 for the high school. There should also be a chemistry laboratory, a physics laboratory, a shop for boys, 2 shops for girls, a drawing room, a music room, a library, kindergarten, auditorium, and gymnasium. All these activities are carried on in the school at the present time, but with very inadequate equipment. A new building of 16 units, at a cost of \$16,000 per unit, would be \$256,000. Under the traditional plan, 6 additional classrooms would be needed and the cost would be \$352,000.

Summary of costs of building program.

School.	Cost under work-study-play plan.	Cost under traditional plan.
Ritchie district, new building.....	\$462,000	\$659,000
Clay district, new building.....	462,000	659,000
Webster district.....	10,000	192,000
Washington district.....	13,500	128,000
Madison district.....	32,500	240,000
Total white elementary schools.....	979,500	1,878,000
Lincoln School.....	256,000	352,000
Total.....	1,235,500	2,230,000

THE HIGH SCHOOL.

According to the above plan, there will be three combination elementary and junior high schools in the city, one at Ritchie, one at Madison, and one at Washington. This will take the ninth grade from these districts out of the high school, thereby leaving plenty of room for the growth in the high school. Such an arrangement will also doubtless result in arousing among the children in these districts greater interest in going to high school because the junior high school work will stimulate their interest in the things that the high school has to offer.

CAN WHEELING AFFORD THE PROPOSED BUILDING PROGRAM?

Wheeling can afford the proposed building program. Wheeling's taxable wealth is given at \$65,000,000, although it is estimated that on a 100 per cent valuation the taxable wealth of the city would be over \$93,000,000. (See report on school finance.) Compared with other cities of the same population, but with even less taxable wealth, the amount of Wheeling's school property (\$1,071,454.13) is below the average. Among 45 cities of the same class it ranks thirty-fourth in the amount of school property. Bayonne, N. J., is also an industrial city of 55,000 population, and its taxable wealth at 100 per cent valuation is \$68,485,000. The amount of its school property is \$2,524,000. In other words, up to the present time, Wheeling has not spent on her public-school plant the amount of money which her wealth justifies.

BONDING THE CITY.

The independent school district of Wheeling is able to bond the city for schools up to \$3,270,200. It has outstanding bonds for only \$120,000. In other words, the district has a leeway of over \$3,000,000 before reaching the limit of bonded indebtedness for schools. There is no reason from a financial standpoint why Wheeling should not carry out a building program which would give all the children of the city the most modern educational advantages.

Wheeling can not afford *not* to give these modern educational advantages to her children. It is said that America is the land of equal opportunity in education, but this does not mean opportunity for uniform education, but opportunity for the development of the varied gifts of many individuals. Democratic education means variety of opportunity in accordance with the needs of the individual. If Wheeling does not give this variety of opportunity in work and study and play to the children of all its people, then it is failing to tap the reservoirs of power for its coming citizenship. Moreover, it is laying up trouble for itself in the future, for nothing is more serious to any community than to have the great mass of people feel balked in their power of self-expression and attainment.

VI. THE HIGH SCHOOLS.

SELECTION OF SUBJECTS AND ORGANIZATION OF CURRICULA.

(1) Needs of various groups of pupils should be more definitely served through reorganization of the five curricula now offered.

(2) A scientific curriculum and a fine arts curriculum should probably be added.

(3) Requirements as to subjects should be somewhat as follows (many of these are already in effect):

(a) English, two units, first and second year same for all pupils; third and fourth years differentiated to meet needs of (1) pupils in classical and fine arts curricula, (2) pupils in commercial and industrial arts curricula; pupils in other curricula will choose between these two types.

(b) Present requirement of $2\frac{1}{2}$ units of mathematics should be limited to classical and scientific curricula; one unit of business arithmetic in commercial curriculum; one unit of business arithmetic or composite mathematics in the general, industrial, and household arts curricula.

(c) Three units of social studies in the general curriculum, one in commercial, and two in all others. American history and civics, one-half unit each, required of all pupils.

(d) Science, three units in scientific curriculum; one unit in all others.

(e) Four units of foreign language in classical curriculum; two units in fine arts and scientific curricula.

(f) Four units of household arts or industrial arts in household arts and industrial arts curricula, respectively; one unit of either in general curriculum.

(h) Four units in art or music in fine arts curriculum.

(i) Physical training, one-fourth unit each year required of all pupils.

(j) Include in each curriculum only the elective subjects appropriate to it.

(4) Part-time classes for employed boys and girls should be developed; also a two-year vocational curriculum preparing for wage earning.

CLASSROOM WORK AND EXTRA-CURRICULAR ACTIVITIES.

(1) Attitude of teachers especially commendable; interest and enthusiasm evident in work observed.

(2) Effectiveness of instruction may be increased through study and experimentation along the following lines:

(a) Better assignment of lessons and direction of study.

(b) More supplementary materials and wider application of class work to life situations.

(c) More responsibility should be placed on pupils.

(d) In daily work and semester examinations, more emphasis should be placed on questions involving comparison, judgment, interpretation, reasoning.

(3) The extra-curricular activities (such as literary and debating societies, musical organizations, athletic sports) should be broadened in scope and more definitely utilized for their educational possibilities.

ADMINISTRATION AND SUPERVISION.

(1) A director of each curriculum should be appointed to assist the principal in various ways.

(2) Each group of closely related subjects should be organized into a department, and the teachers organized under a chairman for study of materials, methods, and special problems.

(3) A specially trained and experienced adviser or dean of girls should be appointed; the principal can act in this capacity for boys.

(4) Present methods of classifying pupils should be supplemented by the use of intelligence and other educational tests and measurements.

(5) Present system of marking on basis of 100 per cent should be changed to system of 4 or 5 letters; or marks may be given only in multiples of 5.

(6) A cafeteria under the supervision of the household arts department is needed.

(7) The present noon intermission should be abolished, and time for lunch limited to two periods, one-half of the school being scheduled for each period.

(8) A skilled teacher, who is also trained in library methods, should be assigned to each high school as librarian, responsible to the principal, to maintain and conduct a branch library.

(9) The industrial arts department should be more adequately housed.

(10) The commercial department should be furnished additional equipment.

(11) A well-trained record clerk should give full time to maintaining more complete system of records.

(12) Definite steps should be taken to increase the high-school attendance.

IN GENERAL.

(1) A system of junior high schools, comprising grades 7, 8, and 9, should be established.

(2) A building program, looking toward buildings better adapted to the needs of secondary education, should be planned for a period of years.

(3) A special study should be made of the needs of colored pupils, with a view to placing greater emphasis on vocational subjects.

(4) The teaching schedules in a few cases are too heavy.

VII. THE ELEMENTARY SCHOOLS.

INTRODUCTORY.

Every teacher in the elementary schools was visited at least once, usually for a full lesson period; many teachers were visited more than once, and by more than one member of the staff. In preparation for these personal observations educational tests in handwriting, reading, arithmetic, spelling, and vocabulary, were given throughout the school system, so that definite, objective evidence was available to supplement the judgments of classroom teaching. In addition to these tests and observations, written lessons, notebooks, examination papers, and other written evidence of school work were collected and carefully studied.

The report is very adverse. A few teachers are doing excellent work, but on the whole the community is not receiving fair returns for money expended on the elementary schools.

REORGANIZATION ON JUNIOR-HIGH-SCHOOL BASIS.

The school system should be reorganized so as to provide public kindergartens; elementary schools of six years; at least three junior high schools, comprising grades 7, 8, and 9; and a senior high school of three years. A modified form of departmental instruction should be adopted for grades 4, 5, and 6.

A MODERN COURSE OF STUDY NEEDED.

Responsibility for the present course of study, which is wholly unsatisfactory, rests directly on the administration, not on the teachers.

No attempt has been made to draft a course of study adapted to conditions and needs in Wheeling, or reflecting current ideals in education. Many of the topics now required in arithmetic, grammar, and other subjects should be eliminated.

There is no discoverable relationship between the various subjects of instruction, and in general the course is many years behind the best current practice. Civics, elementary science, and illustrative handwork are conspicuous by their absence. The course of study is uniform throughout the city, and no allowances are made for differing degrees of ability among children.

The course of study should be entirely reorganized, and based upon the principle of meeting the needs and abilities of children at successive stages of development.

The very formal type of work in handwriting, arithmetic, etc., in the first two grades should be eliminated, and for it should be substituted free play, oral language, nature study, modes of expression in the manual arts, and other activities based on the children's experiences.

A specialist should be employed to work with the principals and teachers in the construction of a modern curriculum for the Wheeling schools.

Too much attention is now given to formal spelling, grammar, and arithmetic; while too little or no attention is given to geography, history, literature, oral language, illustrative handwork, drawing and music for appreciation, elementary science, supplementary reading, civics, physical training, and play.

TEACHERS GENERALLY UNPREPARED FOR SERVICE.

Only 24 of the 174 teachers in the elementary schools meet reasonable standards of qualifications. Only 12 have had as much as one year of normal-school training after completing the high-school course. About three-fourths of the teachers have had practically nothing more than high-school education, or less.

The average term of service in Wheeling is 14.3 years, while the total average experience is 16.1 years, which is very much above the average. This degree of per-

manency of tenure would be a commendable feature if the teachers were adequately trained; as it is, the children of Wheeling do not have the advantage of teachers who have had good education and adequate professional training for their work.

HIGHER STANDARDS OF TEACHING ESSENTIAL.

The teachers in the Wheeling elementary schools need training first, and then inspired, intelligent guidance from principals and supervisors.

No new teacher should be employed in the elementary schools who has not had a minimum of two years of professional training beyond graduation from a standard four-year high-school course. Teachers now in the system should be given a reasonable period, say, five years, in which to meet the new standards. To assist them, study classes for teachers should be organized, including possibly extension courses from near-by educational institutions.

Teachers should be required to continue professional growth and development, but endeavor along such lines should be recognized. They should be permitted to visit other schools at least one week each year. Equal salaries for equal ability, training, and experience should be paid throughout the system. The teaching staff should not be recruited entirely from Wheeling.

LACK OF SUPERVISION.

There is much confusion of authority in the present plan of supervision; in general, no one seems to know just how much authority he has or whence it comes. The superintendent attempts to visit each teacher five times each year, but visits possible on this plan must be short and perfunctory. Principals are expected to visit 30 minutes each week in each teacher's room; but this is not regularly done, and such visits as are made are rarely followed by conferences. The time of principals is too largely taken up with routine office work, and they are handicapped by lack of clearly defined authority in their own buildings. Practically all of the principals are able school men and women, capable of wise exercise of supervisory authority.

The special supervisors in physical training and drawing are in reality special teachers, and in some instances are able to secure very little cooperation from the classroom teachers.

LINES OF AUTHORITY SHOULD BE CLEARLY DEFINED.

The present chaotic condition of the supervisory scheme in Wheeling calls for complete reorganization.

The superintendent should deal with the classroom teachers through the principals and supervisors. The principal should be held responsible for the work of his school, and should be given full authority, under the superintendent, in the administration and supervision of his school.

A special supervisor should be appointed for the primary grades. The supervisors of special subjects, as music, drawing, etc., should probably give more time to directing and assisting the activities of teachers, teaching themselves only for demonstration and when the regular teachers are not prepared.

The relations between special supervisors and school principals must be carefully defined. Better cooperation is needed.

A bureau of tests and measurements should be established as an aid to the supervisory and teaching force.

STATUS OF THE SCHOOL PRINCIPAL.

The chief function of the principal should be supervision of instruction, and he should be professionally trained for this important work. The principal should be assigned the duty of conducting teachers' meetings for the discussion of school prob-

lems; he should have authority to assign school duties to his teaching staff within prescribed limits; he should nominate teachers for confirmation by the superintendent.

GENERAL MANAGEMENT OF SCHOOLS FAULTY.

The classification of pupils in the schools is faulty, as evidenced by the wide range in scores in the various tests, and by the presence of unduly large proportions of pupils who are too old for their grades.

The system of promotions is unsatisfactory, in that a grade below 60 in a single subject sometimes forces a pupil to repeat the work of an entire semester. The plan of having coach teachers is to be commended, but as applied in Wheeling it is ineffective and unsuccessful.

A bureau of tests and measurements should be organized to secure the data upon which to base a modern scheme of classification, grading, and promotions, to the end that children of nearly equal ability and attainments may be placed together. Defective and subnormal children should receive special attention. The coach teachers should be specialists, trained in methods of dealing with backward children.

VIII. PHYSICAL EDUCATION, HEALTH SUPERVISION, HEALTH TEACHING.

Public schools should educate for health, vigor, and sanity. The physical education, medical inspection (health supervision is a better term), and health teaching already established in the Wheeling schools are substantial elements of a program for promoting these objectives. The development of this program is hindered by inertia in the school system and in the public, by unsatisfactory school plants and, perhaps most important, by lack of coherent and effective administrative organization of the schools as a whole.

HEALTH EDUCATION SHOULD COORDINATE MANY ACTIVITIES.

1. Develop the beginnings that have been made in physical education, health supervision, and health teaching into a consistent, complete, and coordinated program. Ultimately it may be desirable to combine these activities into a single administrative unit. For the present the physical education and the health supervision should be developed separately, but in logical and helpful coordination. Health teaching, of necessity, is a divided responsibility and must be developed in connection with physical education, health supervision, and, in the higher grades and in the high school, with such subjects as home economics, biology, and civics.

2. Develop the program of physical education along the lines already laid down, including coordination with community recreation. Make the director of physical education responsible to the superintendent of schools not only for the conduct of his department but also for the selection of his assistants. Appointments should be made only upon his initial recommendation, approved by the superintendent. Develop plans already initiated for preparing teachers in service to take adequate part in the physical education program. See that "classroom physical training" conforms to hygienic principles; such as, conducted only in well-ventilated rooms; exercises chiefly recreative; needs of individual pupils recognized.

3. Provide a clean, well-lighted and well-ventilated exercise room and a minimum of 30 square feet per child of actual playground space for each school. Provide, further, a sufficient number of well-located district playgrounds, large enough to insure for the children and young people of each district such vigorous outdoor games as

soccer, baseball, and field and track sports. The new public-school athletic field provides for city-wide competitions and exhibitions, but is not a substitute for local district playgrounds.

4. Provide for one full-time director of the department of medical inspection directly responsible to the superintendent for the administration of this department. His duties should include the communicable disease work of the schools, health examination of pupils, supervision of the nursing service, sanitary supervision of school plants, supervision of special classes for subnormal and handicapped children, promotion of hygienic school management, and, in general, supervision of all school conditions affecting the health and growth of pupils. The amount, variety, and thoroughness of work involved will require the full time of a competent man.

Expand and improve the health examination procedure, provide complete examination for all children entering school, all malnourished children, those suspected of tuberculosis or organic troubles, those engaging in competitive athletics. The examination should include the mental status of pupil and the nervous and emotional factors that condition health.

ADEQUATE RECORDS ESSENTIAL TO EFFICIENT WORK.

Improve the recording and the reporting. Make the records more effective as aids to follow-up work with individual children and as means of analyzing and evaluating the work performed. The periodic statistical reports as now made are of little value except for filing. Provide for an annual, analytical report showing scope of activities, achievements, obstacles in the way of achievement, and presenting recommendations for improvements. There should be periodic reports covering urgent matters.

The school nurses are doing very valuable work. Their energies might be conserved, and even more effective work would be done, if the objectives of the nursing service were better defined, and if there were more systematic guidance and supervision of the nurses. The mutual responsibility of nurses, principals, and teachers should be more clearly defined. It is desirable ultimately that there should be a nurse in every school.

The director of medical inspection, under definite regulations, should be responsible for the hygiene of school buildings.

The respective duties and responsibilities of the medical inspector, nurses, principal, teachers, and janitors should be defined. The director should be required to report promptly and accurately upon urgent matters, and the board should lay upon itself the duty of acting promptly upon his recommendations.

SUBNORMAL AND HANDICAPPED CHILDREN A SPECIAL PROBLEM.

At present there is no provision for the special education of subnormal and handicapped children, such as anemic and tubercular children, the speech defectives, the cripples, the deaf, the semiblind, and the mental subnormals. A careful survey should be made under the direction of the medical inspector to determine the number of children requiring special education. The nutrition classes should be increased to include malnourished children.

5. The experimental work of the nurses in health teaching should be encouraged and developed. The nutrition classes, both formal and informal, the health talks given by the nurses in connection with their periodic inspections, the inclusion of the weight record in the pupil's monthly report and other methods are stimulating interest in health and the practice of health habits by pupils. An effective program of health teaching may be developed through the leadership of the nurses. It must be recognized, however, that health teaching is not an exclusive function of the nurses. On the contrary, it is an essential part of the work of every teacher. Time should be provided in the schedule, and all teachers should be prepared for this work.

SPECIAL PROBLEMS OF THE HIGH SCHOOL.

6. The administrative responsibility of the principal of the high school should be clearly defined. There should be clear and specific regulations governing his responsibility to the superintendent, and his relationship with the director of physical education medical inspector, supervisor of nurses, and the director of home economics.

The present plan for administration of physical education including athletics should be maintained and strengthened.

The physical-training program in the high school, though correct in principle, should be modified on account of unfavorable physical facilities and the exigencies of the program. This is especially true with respect to the girls. If possible, reorganize the program so as to provide two double periods a week for each class instead of five single periods and place all physical-training classes in the two periods just prior to the noon recess and the two periods just prior to the close of school. The loss of the daily period of exercise would be compensated by the better observance of hygienic considerations.

Put into effect the recommendation of the director of physical education for the reconstruction for the boys' locker rooms, toilets, and shower baths. Study carefully the matter of providing better facilities for the girls.

There is no prescribed health teaching for the boys. Some incidental instruction is given in connection with physical training. This should be developed and systemized. For the girls, health instruction is involved in three required subjects—physical training, home economics, and home nursing. Health teaching in a high school is necessarily a divided responsibility. The special part to be played by each of these agencies should be worked out, and a coordinated program adopted. Furthermore, there should be some plan devised whereby the composite program may be carried out with mutual understanding and cooperation.

IX. HOME ECONOMICS.

Home economics instruction is well established in the white schools, and conditions are favorable for continued development. In accordance with best practice, special teachers are employed, special rooms and equipment are provided, and the supervisor has opportunity and authority for supervision; hence, a united and well-organized staff of teachers.

WEAKNESSES IN PRESENT SCHEME.

(1) The course of study is too narrow; insufficient attention given to problems of food and clothing in the home and relative to home budgets, home sanitation, personal accounting, social significance of the home and home making.

(2) The course of study is uniform throughout the city, and hence no special consideration is given to varying home conditions, needs, and environment.

(3) The time allotment in grades 5 to 8, inclusive, is inadequate.

(4) The work suffers from the complete lack of handwork in the earlier grades.

(5) Special attention should be given to home economics instruction for over-aged girls in grades below the sixth.

(6) The course in home nursing as now given in ninth grade should be modified so as to emphasize conditions of health rather than of illness and disease, and amount of lecture work should be materially reduced.

(7) Food work should be carried beyond individual quantities and recipes, and connected more vitally with home problems.

- (8) Sewing problems should be more varied, interesting, and adapted to pupil and home needs.
- (9) Walking distances between schools and home economics centers are too great in some cases.
- (10) The equipment is not sufficiently varied.
- (11) Storage facilities for home economics materials and supplies are badly needed.
- (12) Rooms are needed for instruction in various phases of home management.
- (13) There is a singular absence of illustrative and reference material.
- (14) Laboratories are unattractive.
- (15) Teachers' schedules require much useless travel about the city.
- (16) School lunch rooms are badly needed, and should be under the supervision of the home economics department.
- (17) Home economics instruction has too little practical outcome in the lives and habits of the pupils. There should be an adviser of girls, cooperating closely with the home economics department.
- (18) Special provision should be made for children suffering noticeably from malnutrition.

SPECIAL IMPORTANCE OF HOME ECONOMICS IN THE COLORED SCHOOL.

Home economics in the colored school has many additional handicaps. The room in which it is taught is not suitable for the work; the equipment is poor and inadequate; the arrangement of equipment is inconvenient; the teaching force is insufficient, even though the pupil enrollment is small.

Many Negro children are retarded; the student mortality is high; the occupations open to colored girls are limited almost entirely to household work of some kind, or to work in industries derived from household activities; hence, the home economics courses should be especially well organized, the equipment should be good and approach good home conditions, and the teaching vigorous. Additional time should be scheduled for home economics for colored girls.

The present attempt to furnish hot lunches should be encouraged and special provision made for serving hot food.

Until such time as a new building is secured for the colored school, the home economics department should be moved into a portable building, which, probably, should be located above the present building. This portable building should be well equipped and supplied with modern household equipment, such as should be found in American homes.

X. MANUAL TRAINING AND VOCATIONAL EDUCATION.

The Wheeling schools are to be commended for the splendid work which is being done in manual training and vocational training within the limits thus far set us. Evidence of a praiseworthy professional spirit is found in the weekly meetings of the supervisor and the entire staff enrolled in an extension course of study and discussion under the auspices of the State university.

THE NEXT STEPS FORWARD.

- (1) Among the improvements to be made probably the first should be to plan a scheme of handwork for all boys and girls, beginning with the lowest grade, and coordinated with the shopwork, drafting, and home economics of the upper elementary and high-school grades.

(c) Advanced drawing: Charcoal, poster design, illustration, title-pages, headings for the school publications. This course for future art students only.

The first year that an art course is offered it may be well to begin with the general course, which should, because of its scope, attract all students interested in the subject.

A CIRCULAR OF INFORMATION WOULD BE HELPFUL.

(1) A printed course of study in art education should be prepared, containing information as to:

- (a) Psychology of the subject.
- (b) Scope and aims in public school system: Appreciation, expression.
- (c) Standards of attainments.
- (d) Methods of presentation.
- (e) References to standard texts.
- (f) Supplies and materials.

(2) Copies of these outlines should be furnished to each principal, as well as to each teacher.

(3) Illustrated charts showing the progressive steps of type lessons should be placed in some building or room centrally located in the city for the use of the grade teachers.

INFLUENCE OF THE ART DEPARTMENT ON BUILDINGS AND GROUNDS.

(1) Employ expert advice on the subject of interior and exterior decoration:

(a) The selecting of color for the walls of the rooms, halls, and corridors, with special attention to light and durability as well as color.

(b) Place in each classroom bulletins or display boards to be used in exhibiting class work in penmanship, writing, arithmetic, drawing, etc. Through teachers' and principals' meetings, formulate definite rules consistent with good design to govern the use of such boards, and thus prevent a haphazard pinning of papers and pictures to any available woodwork.

(c) Supply each classroom with a few pictures appropriate to the grade and age of the pupils, and eliminate such pictures as are too small to be easily seen by the majority of the class. The principal of the building, the supervisor of art, and the grade teachers should work in harmony to secure the best for the building, and work out a scheme for decorating the corridors with the classroom work of exceptional pupils.

(d) Supply aisle boards for the display of groups of objects for drawing.

(e) Children in the grades should be supplied from the school funds with water-color boxes and brushes.

(2) Place in each building a small library of books on art and on art education.

ART EDUCATION AND THE COMMUNITY.

(1) Secure exhibitions of original examples of fine and industrial arts work and arrange for classes to make special trips to the exhibitions under the guidance of the grade teachers.

(2) Pictures of examples of architecture, sculpture, and paintings now in Wheeling should be made available for study.

(3) Cooperation of the teachers in the grades of bench work, pottery, domestic science, principals of the schools, and the librarian should be sought to perfect a more solid school organization.

XII. TANGIBLE RESULTS OF THE SURVEY.

At least two definite actions of the board of education, growing out of consideration of the recommendations of the survey report, may be recorded:

REORGANIZATION OF THE BOARD OF EDUCATION.

At a meeting of the board held March 29, 1921, a series of resolutions proposing amendments to the legislation under which the Wheeling public schools are now operating were adopted, in accordance with which the number of members would be reduced from 21 to 5, effective in June, 1923, the earliest possible legislative date at which the changes can be made.

On March 30, 1921, the president of the board of education wrote to the Bureau of Education, as follows:

After a series of meetings and conferences the board finally passed the amendments to the bill prepared by the Rotary Club, Kiwanis Club, and chamber of commerce, which provide for the election of five commissioners at large at the city election of 1923, the term to be six years. At the first election two will be elected for six years, two for four years, and one for two years, and the election is to be nonpartisan and candidates arranged in alphabetical order. The other provision is that the superintendent shall appoint all principals, teachers, and other employees of the board, subject to confirmation by the board.

At a meeting of the joint committee of the above organizations held yesterday these changes were approved unanimously by the members present, so that the bill as now amended goes to the legislature without contention.

QUALIFICATIONS OF TEACHERS.

On Friday evening, July 22, 1921, the board of education adopted the following resolutions:

In order to carry into effect the recommendation of the survey commission with respect to raising the standards of qualifications of the teaching staff, the board of education of the school district of Wheeling hereby adopts the following resolutions:

Resolved, (1) That hereafter all principals, supervisors, directors, teachers, librarians, nurses, clerks, janitors, and other employees (except the clerk of the board) shall be employed, promoted, demoted, transferred, retired, or dismissed, exclusively upon the written recommendation of the superintendent of schools, subject to the approval of the board.

(2) That after July 1, 1921, no new teacher or supervisor shall be employed for service in the high schools who is not a graduate of an accredited four-year college or university course, except that teachers or supervisors in special technical subjects may offer successful experience in the vocations related to such subjects in lieu of two years of such college or university course, provided two years of approved professional training beyond high-school graduation be offered.

(3) That after July 1, 1921, no new teacher or supervisor shall be employed for service in the elementary schools who is not a graduate of an approved normal school or teachers' college course consisting of two years' work beyond graduation from a standard high school, or, in the case of special trade subjects, who has not had the equivalent of two years of professional preparation for teaching or supervising the subject in question.

(4) That after July 1, 1921, to be eligible for a new appointment as principal of a school a candidate should meet the minimum requirements herein set forth, and in addition should have had not less than five years' successful experience in teaching, and have completed an approved course of professional preparation in school administration and supervision.

(5) That in the cases of all principals, teachers, and supervisors who were employed in the Wheeling public schools during the year ended June, 1921, and reappointed for the ensuing year, the application of the minimum requirements as herein set forth be waived until September 1, 1927; and that the superintendent be directed to report on the professional qualifications of all principals, teachers, and supervisors at the regular meeting of the board in September of each year.

(6) That after July 1, 1925, no person shall be employed for substitute service who does not meet with the minimum qualifications of regular teachers as set forth in this resolution.

DEPARTMENT OF THE INTERIOR
BUREAU OF EDUCATION

BULLETIN, 1921, No. 29

MONTHLY RECORD
OF CURRENT EDUCATIONAL
PUBLICATIONS

SEPTEMBER, 1921



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MONTHLY RECORD OF CURRENT EDUCATIONAL PUBLICATIONS.

Compiled by the Library Division, Bureau of Education.

CONTENTS.—Educational history and biography—Current educational conditions—Educational theory and practice—Educational psychology; Child study—Educational tests and measurements—Special methods of instruction—Special subjects of curriculum—Kindergarten and primary school—Rural education—Secondary education—Teacher training—Teachers' salaries and professional status—Higher education—School administration—School management—School buildings and grounds—School hygiene and sanitation—Sex hygiene—Physical training—Play and recreation—Social aspects of education—Child welfare—Religious and church education—Manual and vocational training—Vocational guidance—Home economics—Commercial education—Legal education—Medical education—Civic education—Americanization—Education of service men—Education of women—Negro education—Education of deaf—Exceptional children—Education extension—Libraries and reading—Bureau of Education: Recent publications.

NOTE.

The record comprises a general survey in bibliographic form of current educational literature, domestic and foreign, received during the monthly period preceding the date of publication of each issue.

This office can not supply the publications listed in this bulletin, other than those expressly designated as publications of the Bureau of Education. Books, pamphlets, and periodicals here mentioned may ordinarily be obtained from their respective publishers, either directly or through a dealer, or, in the case of an association publication, from the secretary of the issuing organization. Many of them are available for consultation in various public and institutional libraries.

Publications intended for inclusion in this record should be sent to the library of the Bureau of Education, Washington, D. C.

During July and August the record was not published. The present number accordingly follows in immediate sequence that for May-June, 1921.

EDUCATIONAL HISTORY AND BIOGRAPHY.

986. **Burnham, William H.** Horace Mann. School and society, 14:109-15, September 3, 1921.

987. **Finegan, Thomas E.** Free schools; a documentary history of the free school movement in New York state. Albany, The University of the state of New York, 1921. 682 p. plates. 8°. (Vol. I of the fifteenth annual report of the State education department.)

Not a systematic history of the development of public education in New York state, but a collection of valuable source material on the subject which is here made accessible to readers and students.

988. **Finegan, Thomas E.** The township system. A documentary history of the endeavor to establish a township school system in the state of New York from the early periods through the repeal of the township law in 1918. Albany, The University of the state of New York, 1921. 1693 p. plates, tables. 8°. (Vol. I of the fourteenth annual report of the State education department.)
989. **Fitzgerald, Virginia.** A Southern college boy eighty years ago. South Atlantic quarterly, 20:236-46, July 1921.
Student life at Randolph-Macon college, Virginia, early in the last century.
990. **Indiana university.** Indiana university, 1820-1920. Centennial memorial volume. Bloomington, Ind., Indiana university, 1921. 345 p. 8°. (Indiana university bulletin. vol. xix, no. 2, February 1921)
Contains: 1. D. D. Banta: History of Indiana university, p. 9-113. 2. J. G. Schurman: The American university—today and tomorrow, p. 117-40. 3. A. S. Warthin: The university medical school and the state, p. 157-62. 4. E. P. Lyon: Graduate medical education—experience with the Minnesota plan, p. 163-77. 5. S. M. Ralston: The Thomas Jefferson theory of education, p. 179-91. 6. Evans Woollen: The state university and its service to business, p. 193-201. 7. E. A. Birge: The state university at the opening of the twentieth century, p. 203-22. 8. Paul Shorey: The functions of the state university, p. 223-41. 9. J. R. Angell: The obligation of the state toward scientific research, p. 243-56. 10. Roscoe Pound: The future of legal education, p. 257-72. 11. R. A. Millikan: A present need in American professional education, p. 273-79. 12. Sir R. A. Falconer: The spiritual idea of the university, p. 293-304.
991. **Slosson, Edwin E.** The American spirit in education; a chronicle of great teachers. New Haven, Yale university press [etc.] 1921. x, 309 p. plates. 8°. (The chronicles of America series, vol. 33)
CONTENTS.—1. School days in early New England.—2. Schools in New Netherland.—3. Schools of the middle and southern colonies.—4. The colonial college.—5. Franklin and practical education.—6. Jefferson and state education.—7. Washington and national education.—8. Schools of the young republic.—9. Horace Mann and the American school.—10. De Witt Clinton and the free school.—11. The westward movement.—12. The rise of the state university.—13. Catholic education in America.—14. The rise of technical education.—15. The Morrill act and what came of it.—16. Women knocking at the college door.—17. The new education.—18. The university of today.

CURRENT EDUCATIONAL CONDITIONS.

GENERAL AND UNITED STATES.

992. **Bonner, H. R.** Waste in education. American school board journal, 63:33-35, 124, July 1921.
Discusses irregular attendance, repetition of school work, and withdrawal from school.
993. **Capen, Samuel Paul.** The government and education. Educational review, 62:127-33, September 1921.
Dr. Capen here says that the creative interests of the nation—industrial production, scientific inquiry, social welfare, and education—should be clearly identified from the defensive and conservative interests, which are fundamentally different. The creative interests flourish when supplied with knowledge, intellectual guidance, leadership, and languish when subjected to control or coercion.
994. **Furst, Clyde.** The educational utility of the great foundations. Educational review, 62:98-106, September 1921.
The writer concludes that "the adequate resources, able guidance, and skilled workers of the foundations make possible a freedom and independence, a comprehensiveness and continuity, not otherwise attainable, and that these characteristics not only meet real public needs, but also encourage and aid other efforts for the public welfare."
995. **Georgia illiteracy commission.** Report . . . to the General assembly of the state of Georgia for the year ending December 31, 1920. [Atlanta, Ga., 1921] 17 p. illus. 8°.
With this is bound: Lessons in reading, writing, arithmetic, for special school work in Georgia; prepared by M. L. Brittain. Atlanta, Ga., 1920. 24 p.

996. **Miller, Paul G.** Education in Porto Rico: problems and progress. American review of reviews, 64:301-10, September 1921.

In this article, the commissioner of education of Porto Rico gives a comprehensive account of current educational conditions in the island.

997. **Rolfe, Alfred G.** What do boys know? Atlantic monthly, 128:59-61, July 1921.

Discusses the results of information tests given to boys in a large preparatory school.

998. **Tigert, John J.** Eradication of illiteracy. School life, 7:1-2, 12, September 1921.

An address delivered before the Illiteracy section of the National education association, Des Moines, July 1921.

999. **Vincent, George E.** The Rockefeller foundation. A review for 1920; the program for 1921. New York, 1921. 47p. illus. 8°.

1000. **Yanes, Francis J.** Education section of the Pan American union. Bulletin of the Pan American union, 53:281-84, September 1921.

The education section of the Pan American union promotes the exchange of students and professors between Latin-American countries and the United States and fosters other educational relations with these countries.

FOREIGN COUNTRIES.

1001. **Champenois, Julien J.** University reform in France. Educational review, 62:107-15, September 1921.

1002. **Fleming, Daniel Johnson.** Schools with a message in India. London, New York [etc.] Humphrey Milford, Oxford university press, 1921. 209p. plates. 12°.

A contribution to the first-hand information available on the problems of popular education in India. The author, Prof. Fleming, of the department of foreign service of Union theological seminary, New York, was American representative on the commission on village education in India, which was sent abroad by the combined missionary societies of Great Britain and North America during the year ending June, 1920.

1003. **Koritchoner, Ida.** Forces in German education. Survey, 46:596-97, August 16, 1921.

Constructive reforms in German education discussed. Pedagogical experiments analyzed.

1004. **Leclère, Léon.** L'enseignement supérieur en Belgique (1919-1921). Revue internationale de l'enseignement, 41:237-43, July-August 1921.

1005. **Ling, Ping.** The present educational conditions in China. Pedagogical seminary, 28:116-38, June 1921.

Writer says that modern education in China is still in its infancy, as the problem of providing educational facilities for a population of 400,000,000 is so immense and complicated.

1006. **Mackenzie, A. H.** State examinations in Scottish schools. Calcutta, Superintendent government printing, 1921. 3 p. l., 45 p. 8°. (Bureau of education, India. Pamphlet no. 9.)

1007. **Montgomery, James A.** Jerusalem as an educational center. Menorah journal, 7:103-7, June 1921.

1008. **Orb, William.** A recent departure in education in Germany. School life, 6:1-2, May 15, 1921.

People's high schools have been established to develop the habit of independent thought—to teach how to think and to give the material for thought.

1009. **Roques, P.** La réforme scolaire en Allemagne. Revue universitaire, 30:101-14, July 1921.

1010. **Roudière, Louise.** Quelques réflexions au sujet de l'enseignement du français. Revue pédagogique, 79:11-24, July 1921.

1011. **Sokolov, Boris.** The tragedy of child life under bolshevism. Current history, 14:664-67, July 1921.

Educational and social condition of children under the Bolshevist régime.

1012. **Špišek, Ferd.** L'enseignement tchéco-slovaque: son passé et son avenir.—I. *Revue internationale de l'enseignement*, 41:225-36, July-August 1921.
To be continued.
1013. **Stepanek, B.** The spirit of Jan Amos Comenius in the education of the Czechoslovak Republic. *School and society*, 13:651-54, June 11, 1921.
The identity of ideals of America and the Czechoslovak Republic in the sphere of education is a guarantee that the bonds of friendship which unite the two countries will be increasingly strengthened.
1014. **Zentralinstitut für erziehung und unterricht, Berlin.** Die deutsche schulreform; ein handbuch für die reichsschulkonferenz. Leipzig, Quelle & Meyer [1920] xii, 251, 68p. 8°.
Outlines the topics to be discussed at the German educational conference (reichsschulkonferenz) of 1920.
1015. ——— Die reichsschulkonferenz in ihren ergebnissen. Leipzig, Quelle & Meyer [1920] 226p. 8°.
Sketches concisely the main results of the German educational conference (reichsschulkonferenz) held June 11-19, 1920, to consider measures of reform for the German schools.

EDUCATIONAL THEORY AND PRACTICE.

1016. **Kilpatrick, William H.** The meaning of method. *Journal of educational method*, 1:14-19, September 1921.
1017. **Miller, Dickinson S.** The Antioch idea. *Nation*, 113:263, September 7, 1921.
An appreciation of the new plan of education inaugurated at Antioch college, Yellow Springs, Ohio, by President Arthur E. Morgan.
1018. **Sharp, Dallas Lore.** Education for authority. *Atlantic monthly*, 128:13-21, July 1921.
Writer says that "education for authority must both precede and continue with conventional education; equal place made for chores, great books, simple people, and the out-of-doors, with that which is made for texts, and recitations, and schoolroom drill."

EDUCATIONAL PSYCHOLOGY; CHILD STUDY.

1019. **Baldwin, Bird T.** The physical growth of children from birth to maturity. Iowa City, The University, 1921. 411 p. illus., charts, tables. 8°. (University of Iowa. Studies in child welfare, vol. 1, no. 1. June 1, 1921.)
Annotated bibliography: p. 320-402.
Presents data and results applicable to the formulation of standard norms in physical growth of children, with a view to establishing a basic science for allied investigations in mental, educational, social, and moral development and clinical studies in nutrition.
1020. **Freeland, George E.** A year's study of the daily learning of six children. *Pedagogical seminary*, 28:97-115, June 1921.
In the plan of study for this test typewriting was chosen; the touch system, with the keyboard entirely hidden from sight was adhered to.
1021. **Munson, Edward L.** The management of men; a handbook on the systematic development of morale and the control of human behavior. New York, H. Holt and company, 1921. xiii, 801 p. diags. 8°.
Gives the results of the experience of the chief of the Morale branch of the general staff of the United States army. While the book is written from the military standpoint, perhaps industrial morale will be the greatest field of usefulness of the principles brought out.
1022. **Packer, Paul C. and Moehlman, Arthur B.** A preliminary study of standards of growth in the Detroit public schools; with an introduction by Stuart A. Courtis. Detroit, Mich., Board of education, 1921. 46 p. diags., tables. 8°. (Detroit educational bulletin. Research bulletin, no. 5. June 1921.)
1023. **Tomkins, Ernest.** Stammering studies. *Pedagogical seminary*, 28:161-70, June 1921.
A discussion of J. M. Fletcher's "An experimental study of stuttering," published in the *American journal of psychology*, April, 1914, v. 25, which the writer says excels any contribution on the subject of stammering either in this country or abroad.

EDUCATIONAL TESTS AND MEASUREMENTS.

1024. **California. University. Department of education.** Measuring classroom products in Berkeley. Sections 1 and 2. Directed by Cyrus D. Mead. Berkeley, University of California press, 1921. 108 p. tables, diagrs. 8°. (University of California. Department of education. Bureau of research in education. Study no. 1, May 1, 1921)
Scientific studies of results in the Berkeley, Calif., schools in writing, spelling, reading, arithmetic, English composition, and geography.
1025. **Colvin, Stephen S.** The use of intelligence tests. *Educational review*, 62:134-48, September 1921.
Continues the account of Dr. Colvin's investigations with intelligence tests at Brown university, begun in the *Educational review* for May, 1920. Both articles show the results from the Colvin tests in comparison with the Thorndike and Army tests.
1026. **Cummins, Robert A.** Educational measuring sticks and their uses. *American school board journal*, 63:33-35, August 1921.
1027. **Estabrook, Arthur H.** The biological bearing of army mental tests. *Social hygiene*, 7:279-84, July 1921.
1028. **Haggerty, M. E.** Haggerty reading examination. Manual of directions for sigma 1 and sigma 3. Yonkers-on-Hudson, N. Y., World book company, 1921. 48 p. 12°.
1029. **Kelley, Truman L. and Terman, Lewis M.** Dr. Ruml's criticism of mental test methods. *Journal of philosophy*, 18:459-65, August 18, 1921.
An answer to a criticism by Dr. B. Ruml, in the *Journal*, vol. 17, p. 57-61. Dr. Ruml characterized the results of mental tests as "astonishingly meagre in theoretical value."
1030. **Madsen, I. N.** Educational research and statistics; interpreting achievement in school in terms of intelligence. *School and society*, 14:59-60, July 30, 1921.
Shows three important sources of error in interpreting the results of teaching in a given class in terms of educational tests alone.
1031. **Thomson, Godfrey H.** A rating scale for teaching ability in students. *Journal of experimental pedagogy* (London) 6:76-82, June 1921.
Discusses the value of the American army rating scale and its applicability to English collegiate conditions.
1032. **Yerkes, Robert M., ed.** Psychological examining in the United States army. Washington, Government printing office, 1921. vi, 890 p. plates, charts, tables. 4°. (Memoirs of the National academy of sciences, vol. XV.
This official report of the Division of psychology of the Office of the Surgeon general, U. S. army, gives a complete account of the history, methods, and results of psychological examining in the army.

SPECIAL METHODS OF INSTRUCTION.

VISUAL INSTRUCTION.

- ✓ 1033. **Eastman, Dolph.** The public school as the neighborhood movie theater. *Educational film magazine*, 5:8-9, 22, 24, June 1921.
As the screen gradually becomes the people's teacher, the public school and not the church should be the movie unit of the community.
1034. **Perkins, F. W.** The United States Agriculture Department movie work. *Educational film magazine*, 6:3, 5, August 1921.
Resumé of its many film activities. More than 130 subjects and 600 prints are in active circulation, which are being distributed to schools, colleges, churches, and other nontheatrical institutions.
1035. **Sawarkar, D. S.** Visual instruction in Baroda. Calcutta, Superintendent government printing, 1920. 2 p. l., 3p. 8°. (Bureau of education, India. Pamphlet no. 10.)
1036. **Vaughan, William J.** Combined churches give community movie shows. *Educational film magazine*, 6:9, August 1921.
Methodist and Presbyterian members get together in a village of 1,300 (New Providence, N. J.) and organize a community service organization.

OTHER METHODS.

1037. Every child his own educator. "Teacher's world" interview with the originator of the Dalton laboratory plan. *Teacher's world* (London) 25:569, 571, July 6, 1921.

This article presents a portrait of Miss Helen Parkhurst; also an interview with her as originator of the Dalton plan.

1038. Knappen, Theodore M. Mastering the arts of life, as exemplified in a new school. *Atlantic monthly*, 128:87-96, July 1921.

Describes the work of the Moraine Park school at Dayton, Ohio.

1039. Parkhurst, Helen. The Dalton plan. *Times* (London) *Educational supplement*, 11:297-98, 315-16, 321-22, 333-34, 347, 357-58, July 2, 9, 16, 23, 30, August 6, 1921.

The Dalton-laboratory plan described in this series of six articles is a scheme of educational reorganization applicable to the school work of pupils from 8 to 17 years of age in the lower and secondary schools. The plan was first tried as an experiment in an ungraded school for crippled children; later it was tried successfully in secondary day schools. The name Dalton is that of the American city where the plan was first attempted as an experiment in a public secondary school.

SPECIAL SUBJECTS OF CURRICULUM.

SPELLING.

1040. Weseen, Maurice H. Can spelling be taught? *American education*, 24: 444-49, June 1921.

The conclusion of the article is that it would be presumptuous to claim that spelling can be taught, but it is certain it can be learned.

ENGLISH AND COMPOSITION.

1041. Hopkins, Edwin M. Should English teachers teach? *Education*, 42:12-18, September 1921.

Discusses the overloading of English teachers with work not properly belonging to their department.

1042. Hasic, James F. An experiment in cooperation. I—Launching the project. *Journal of educational method*, 1:20-23, September 1921.

First article of a series, describing an experiment in English teaching in selected public schools of Chicago.

1043. Tomkinson, W. S. The teaching of English; a new approach. Oxford, Clarendon press, 1921. 229p. 12°.

ANCIENT CLASSICS.

1044. Coolidge, Calvin. The classics for America. *School life*, 7:1, 15-16, September 1921.

An address delivered before the American classical league, at Philadelphia, July 7, 1921.

1045. Houston, Percy Hazen. The humanist and progress. *North American review*, 214:401-9, September 1921.

As a moralist and critic, the humanist strives to create a large body of clear-thinking men, who in turn may exert an even larger influence upon the current of events. That end he perceives can best be brought nearer through the medium of a rightly directed system of education, wherein the humanities may find again a central place.

1046. Showerman, Grant. Science and humanism. *School and society*, 14: 85-87, August 20, 1921.

MODERN LANGUAGES.

1047. Palmer, Harold E. The principles of language-study. Yonkers-on-Hudson, N. Y., World book company, 1921. 186 p. 12°.

Discusses the methods by which a foreign language may successfully be acquired, and tells for what ends our spontaneous and our studious capacities should be employed in this connection.

MATHEMATICS.

1048. **Kellogg, O. D.** A decade of American mathematics. *Science*, n. s. 53:541-48, June 17, 1921.
A sketch of the progress of mathematics in this country during the decade.

SCIENCE.

1049. **Lovelace, B. F.** Some present aspects of chemistry in the United States. *Science*, n. s. 54:139-46, August 19, 1921.
Emphasizes the demand for chemists for the industries, and the necessity of educating men for this work in the universities.
1050. **Wenrich, D. H.** The courses in general zoology: methods of teaching. *Science*, n. s. 54:120-23, August 12, 1921.
Various methods of teaching described. Emphasizes objective studies handled in the form of problems based upon the inductive method. Work in University of Pennsylvania cited.

GEOGRAPHY.

1051. **Selwood, E. H.** The first area in local geography. *Journal of experimental pedagogy* (London) 6:89-99, June 1921.
Methods of teaching geography in schools of Birmingham, England.
1052. **Visher, Stephen S.** Aids to teaching climate. *Geographical teacher* (London) 11:45-51, Summer, 1921.

HISTORY.

1053. **Prescott, Della R.** A day in a colonial home, ed. by John Cotton Dana. Boston, Marshall Jones company, 1921. xiv, 70p. plates, illus. 12°.
A story of colonial life as illustrated by a colonial kitchen established in the Newark, N. J., Museum for the instruction of school children and others. Directions are given for building a similar kitchen in school, library, or museum.
1054. **Wells, H. G.** History for everybody: a postscript to "The Outline of history." *Yale review*, 10:673-704, July 1921.
Also in *Fortnightly review*, 108:887-910, June 1921.
Mr. Wells here vigorously defends his Outline against criticisms coming from various quarters. Regarding the study of general history as a necessary part of any properly conceived education, he urges its introduction into the schools and the preparation of a textbook in the subject adapted to school use.
Ginn and company, of Boston, Mass., have just undertaken to meet this need by publishing a new text, "A General history of Europe," by J. H. Robinson and J. H. Breasted, which aims to present an ordered, general account of man's career on earth in one volume without sacrificing historical unity.

MUSIC.

1055. **Beattie, J. W.** The music supervisor and the public. *School music*, 22:17, 20-25, May 1921.
It is by convincing himself of the value of music and then demonstrating to the public his beliefs that the music supervisor will be accorded the prominence due him.
1056. **Jaques-Dalcroze, Emile.** Rhythm, music and education; tr. from the French by Harold F. Rubinstein. New York and London, G. P. Putnam's sons, 1921. xvii, 334p. musical sup., 16p. front. (port.) plates. 8°.
Contains a series of papers written by Jaques-Dalcroze at various periods from 1898 to 1919, illustrating the development of his views on eurhythmics, with author's preface for this edition.
1057. **Wilson-Dorrett, Olive B.** Language of music interpreted from the child's viewpoint. Yonkers-on-Hudson, N. Y., World book company, 1921. xxi, 296p. music. 12°. (Play school series, ed. by C. W. Hetherington.)
Shows how to teach the written musical language to children by means of colors and by the use of the play impulse in games, etc.

KINDERGARTEN AND PRIMARY SCHOOL.

1058. **Cooper, Nellie.** How to teach the primary grades. Chicago, A. Flanagan company, 1920. 304p. 12°.
1059. **Gesell, Arnold.** Kindergarten control of school entrance. Kindergarten primary magazine, 33:295-98, June 1921.
Given before the International kindergarten union at Detroit, Mich., May, 1921.
1060. **Rasmussen, Vilhelm.** Child psychology. London, Copenhagen [etc.] Gyldendal [1920] 3v. 12°.
CONTENTS.—I. Development in the first four years.—II. The kindergarten child; its conception of life and its mental powers.—III. The kindergarten child: thought, imagination and feeling; will and morale.
"Literature": v. 1, p. 165-66; v. 2, p. 137-39.
Translated from the Danish by David Pritchard.
1061. **Sies, A. C.** The significance of movement, interest, and discipline in childhood, education. Kindergarten and first grade, 6:221-25, June 1921.
Study of the motor acts of children.

RURAL EDUCATION.

1062. **Bacon, George W.** The country school—then and now. Survey, 46:585-90, August 16, 1921.
Discusses the financing of the public schools; renaissance of the country school; teachers' salaries, etc. A retrospect of conditions, and a study of conditions to-day in rural schools.
1063. **Fogarty, W. S.** The effectual "stirring up" of a county to consolidate its rural schools. American city, 25:201-4, September 1921.
By the superintendent of Preble county schools, Eaton, Ohio, telling how consolidation has improved the rural schools in his county.
1064. **Reavis, George H.** Factors controlling attendance in rural schools. New York City, Teachers College, Columbia university, 1920. 69 p. 8°. (Teachers college, Columbia university. Contributions to education, no. 108)
1065. **Sargent, C. G.** Consolidated schools of the mountains, valleys and plains of Colorado. Fort Collins, Colo., Colorado agricultural college, 1921. 60p. illus. 8°. (Colorado agricultural college bulletin. series xxi, no. 5, June 1921)

SECONDARY EDUCATION.

1066. **Cleveland. Board of education.** Give yourself a fair start. Go to high school—what it is; why it pays. Cleveland, Ohio, Board of education, 1921. 48p. illus. 8°.
1067. **Rorem, S. O.** Have we done it? Junior high clearing house (Sioux City, Iowa) 1:3-13, March-April 1921.
A review of what has been learned about junior high schools.
1068. **Stout, John Elbert.** The development of high-school curricula in the north central states from 1860 to 1918. Chicago, Ill., The University of Chicago [1921] xi, 322p. 8°. (Supplementary educational monographs, pub. in conjunction with the School review and the Elementary school journal, vol. iii, no. 3, whole no. 15)
Bibliography: p. 292-316.

TEACHER TRAINING.

1069. **Bane, Charles L.** The Wesleyan plan of observation and student-teaching. Training school quarterly, 8:338-41, July-September 1921.
Describes the method of conducting directed observation and supervised student-teaching in the demonstration school of Ohio Wesleyan university, Delaware, Ohio.

1070. **Cameron, R. G.** An experiment in practice teaching in rural schools. *Schooling* (Teachers' college, Sydney, N. S. W.) 4:109-17, May 1921.

1071. **Lemon, A. C.** Training teachers for leadership—The responsibility of the higher institutions of learning. *Inter-mountain educator*, 16:440-44, June 1921.

America's great need is for leadership in things worth while.

1072. **Lietzmann, W.** Fachwissenschaftliche didaktik an der universität. *Monatsschrift für höhere schulen*, 20:155-61, May-June 1921.

1073. **Roberts, Mary M.** Student life at Teachers college. *American journal of nursing*, 21:782-86, August 1921.

Student life and activities at Teachers college, Columbia university, New York City.

1074. **Wright, Frank L.** The training school. Greeley, Col., State teachers college, 1921. 80p. 12°. (Colorado state teachers college bulletin, ser. xxi, June, 1921, no. 3)

Section six of the Educational survey of Colorado State teachers college.

TEACHERS' SALARIES AND PROFESSIONAL STATUS.

1075. **Beals, E. E.** Men teachers leaving profession for reasons other than financial; some rarely discussed factors which are forcing men out of the teaching profession. *American school board journal*, 63:39-40, August 1921.

Names considerations of tenure, promotion, and prestige and influence of position as factors which deter men from entering the teaching profession.

1076. **Knight, Frederic B. and Franzen, Raymond H.** Personnel management of the teaching staff. *American school board journal*, 63:36-37, July; 43-45, August 1921.

1077. **Luckey, G. W. A.** The sabbatical year or leave of absence of teachers in service for study and travel. *School and society*, 14:115-20, September 3, 1921.

1078. **National education association. Committee on tenure.** Teachers' tenure. *School and society*, 14:129-36, September 3, 1921.

Report of the Committee on tenure presented at the meeting of the National education association, Des Moines, Ia., July, 1921, by Miss Charl O. Williams, chairman.

1079. **Ortman, E. J.** Teacher councils. *Chicago schools journal*, 3:261-66, May 1921.

What the organization is and what it attempts to do.

1080. **Teaching versus business.** By a college professor. *North American review*, 214:21-33, July 1921.

Discusses the advantages of the teaching profession.

HIGHER EDUCATION.

1081. **Association of land-grant colleges.** Proceedings of the 34th annual convention, held at Springfield, Mass., October 19-22, 1920. Burlington, Vt., Free press printing company, 1921. 300p. 8°. (J. L. Hills, secretary, University of Vermont, Burlington, Vt.)

Contains: 1. Samuel Avery: Our present college problems, p. 21-28. 2. W. W. Charters: Improvement of college training, p. 28-30. 3. E. T. Meredith: Cooperative relations in agricultural development, p. 32-39. 4. A. C. True: Committee report on improvement of college teaching in vocational subjects, p. 67-79. 5. R. L. Watts: What can be done to improve the teaching methods of the present staff? p. 79-84. 6. E. W. Allen: Effects of the war on research in agriculture, p. 91-96. 7. L. S. Hawkins: Training teachers of vocational agriculture through the land-grant colleges, p. 159-62. 8. A. R. Mann: The opportunity of the land-grant college in the preparation of teachers of vocational and secondary agriculture, p. 162-66. 9. J. M. D. Bell: Cooperation with industries by the Massachusetts institute of technology, p. 167-72. 10. D. S. Kimball: Industrial problems and engineering education, p. 197-202. 11. A. A. Potter: Administration of engineering divisions at land-grant institutions, p. 212-15. 12. Anna E. Richardson: Home-making teachers—training courses, p. 268-74.

1082. **Andrews, M. B.** How to work your way through college. Greensboro, North Carolina, [J. J. Stone & co.] 1921. 63p. 8°.
1083. **Angell, James Rowland.** The inaugural address of the president of Yale university, June 22, 1921. Yale alumni weekly, 30:1087-89, July 8, 1921.
Also in part in School and society, 14:1-5, July 2, 1921.
1084. **Chamberlin, Thomas C.** Letter from Professor Chamberlin on faculty participation in university government. School and society, 13:691-94, June 18, 1921.
1085. **Conference on methods of college standardization.** Addresses at a conference called jointly by the National conference committee on standards of colleges and secondary schools and the American council on education, held at Washington, D. C., May 6, 1921. Educational record, 2:81-122, July 1921.
Contains: 1. Clyde Furst: Standards in education, p. 85-91. 2. K. C. Babcock: The present standards of voluntary associations, p. 92-99. 3. G. F. Zook: Present standards of state departments of education and state universities, p. 100-3. 4. E. A. Pace: Present standards of the Catholic educational association, p. 104-6. 5. R. L. Kelly: Present standards of Protestant church boards of education, p. 107-13. 6. J. H. Kirkland: Objectives of standardization of higher institutions, p. 116-22.
1086. **Cunliffe, John W.** A union of universities. Forum, 66:42-47, July 1921.
Discusses the aims and activities of the American university union in Europe and the American council on education.
1087. **Hart, Walter M.** The spirit of scholarship. University of California chronicle, 23:237-50, July 1921.
Says that our universities are the great creators and custodians of the spirit of scholarship. Work of the University of California.
1088. **Institute of international education.** Educational facilities in the United States for South African students. Prepared by the Federation of South African students in America. Issued by the Institute. New York, 1921. 23p. double map. 8°. (*Its Bulletin* no. 4. Second series)
1089. ———. Guide book for foreign students in the United States. New York, July 1, 1921. 97p. fold. charts. 8°. (*Its Bulletin* no. 5. Second series)
A concise presentation of the information required by foreign students on the general organization of education in the United States, on undergraduate and graduate work in colleges and universities, on professional education, women's colleges, college life and living conditions, etc. The pamphlet also contains a sketch of the principal foreign student organizations, and a tabular summary of foreign students in the United States.
1090. **Kellogg, Vernon.** The university and research. Science, n. s. 54:19-23, July 8, 1921.
Says that research work and teaching are inseparable from, and indispensable to, each other in a real university.
1091. **Massachusetts agricultural college.** Massachusetts agricultural college in the war. Amherst, Mass., Massachusetts agricultural college, 1921. 203p. front., plates. 8°.
1092. **Merrill, W. A.** The government of universities. University of California chronicle, 23:343-54, July 1921.
Shows the evolution of college and university government in the United States.
1093. **Miller, Dickinson S.** The great college illusion. New republic, 27:101-5, June 22, 1921.
Says that the great college illusion is "the faith that the accumulation of buildings, 'courses,' degrees, and students characteristic of the last 50 years is a progress in education." Criticises college methods and systems.

1094. **Murchison, Carl.** College men behind prison walls. *School and society*, 13:633-40, June 4, 1921.

Two per cent of the desperate criminals in three large states are college-trained individuals.

1095. **Payne, A. F.** Merits and defects of present practices of cooperation between universities and industry. *School and society*, 13:607-13, May 28, 1921

The close cooperation which exists between the university and agriculture and the other fields of human endeavor is lacking in the relations between universities and industry. A scheme of cooperation is formulated.

1096. **Powell, B. E.** The alarming bigness of our universities. *School and society*, 13:654-57, June 11, 1921.

The writer calls attention to the difficulties which beset universities and colleges and the evils which have grown up along with them.

1097. **Riggs, Edward G.** Radicalism in our colleges. *Forum*, 66:197-209, September 1921.

To offset the teachings of the propagandists of radicalism in our colleges, the writer suggests that we should have from the outside world public speakers and writers to contradict by counter-proof the type of speaker now infesting some of the institutions of higher education.

1098. **Thompson, W. O.** The college graduate in modern life. *Indiana alumni quarterly*, 8:269-85, July 1921.

Commencement address at Indiana university, June, 1921.

Discusses education in general; the college as a center of loyalty to the nation; influence of college graduates in the world of affairs.

1099. **Tufts, James H.** Dr. Angell, the new president of Yale. *World's work*, 42:387-400, August 1921.

An appreciation of the life and labors of Dr. Angell. Illustrated.

SCHOOL ADMINISTRATION.

- ✓ 1100. **Iowa.** Department of public instruction. Summary of standards and equipment for approved graded and high schools. *Better American schools for American children*. Rev. by F. A. Welch. Des Moines, State of Iowa, 1921. 61p. 8°.

1101. **Jones, R. W.** School revenues: sources, distribution, limitations. *American school board journal*, 63:38-41, 123, July 1921.

1102. **Miller, William T.** The danger in novelties. *American school board journal*, 62:32, 119, June 1921.

Writer advises that novelties be introduced gradually in schools selected to give as many different types of experience as possible.

1103. **Pratt, O. C.** The problem of school finance. *Elementary school journal*, 21:744-54, June 1921.

1104. **Scholz, Paul H.** The school budget. *American school board journal*, 63:49-50, 121, August; 38-39, September 1921.

SCHOOL MANAGEMENT.

- ✓ 1105. **McClure, Worth.** Professionalizing the principalship. *Elementary school journal*, 21:735-43, June 1921.

Paper presents evidence that the present tendency is toward professional ideals and standards.

SCHOOL BUILDINGS AND GROUNDS.

1106. **Burgess, W. R.** Building costs in 1921. *American school board journal*, 62:37-38, June 1921.

It is the belief of the writer that the general level of building costs has not yet reached its lowest point.

1107. **California. University. Department of education.** A school building survey and schoolhousing program for Napa, California. Directed by Frank W. Hart. [Berkeley, University of California press, 1921] 64p. tables, charts, map. 8°. (University of California. Department of education. Bureau of research in education. Study no. 2, April 1, 1921)

Presents the facts as to the condition of the Napa school plant at the present time, the immediate need for additional school accommodations, a plan for meeting these needs, a program for future needs, a study of the cost involved, and the community's ability to meet it.

1108. **Morrow, Irving F.** The new high school at Salinas. Architect and engineer (San Francisco) 66:47-58, July 1921.

A description of the new school building at Salinas, Calif., accompanied by plates and plans.

SCHOOL HYGIENE AND SANITATION.

1109. **Blanton, Smiley.** The medical significance of the disorders of speech. Journal of the American medical association, 77:373-77, July 30, 1921.

Among other things emphasizes stuttering and its cure; stuttering among soldier group and school children.

1110. **Dana, Harold W.** Myocardial lesions in school children. Boston medical and surgical journal, 185:228-31, August 25, 1921.

Study based on an examination of public school children in Massachusetts. Says that proof of myocardial insufficiency is often to be found in supposed healthy children.

1111. **Dickson, Frank D.** The effect of posture on the health of the child. Journal of the American medical association, 77:760-63, September 3, 1921.

1112. **Gebhart, John C.** Defective nutrition and physical retardation. Pedagogical seminary, 28:147-55, June 1921.

Describes the work of the New York association for improving the condition of the poor, whose committee on the welfare of school children made an intensive study of defective nutrition in 1907. Work of Child health association and other agencies.

1113. **Halsey, Robert H.** Heart disease in children of school age. Journal of the American medical association, 77:672-74, August 27, 1921.

Presents results noted in classes of cardiac pupils segregated at a public school in New York City.

1114. **Harris, Louis I.** Minimum health standards in schools. Nation's health, 3:477-79, August 1921.

"Specific public health problems," says the writer, "are bound up with school hygiene because of the large proportion of the ill health of the community which is found among children of school age." Presents an outline of minimum sanitary standards for the protection of school children and teachers.

1115. **Hays, Harold M.** Needed measures for the prevention of deafness during early life. Journal of the American medical association, 77:263-67, July 23, 1921.

Advocates more careful treatment and testing of children's ears. Emphasizes the education of parents, teachers, and physicians as to the factors which cause deafness.

1116. **Horwitz, Alexander E.** Educational needs of the crippled child. Nation's health, 3:472-74, August 1921.

Describes the work of the Massachusetts hospital school, the Minnesota state hospital, Nebraska orthopedic hospital, and New York state hospital in giving scholastic and shop instruction to crippled children.

1117. **Howe, William A.** School medical inspection in New York state. [Albany, 1921] cover-title, p. 181-191. 8°.

Read before the Medical society of the county of Albany, 1921.

Reprinted from Albany medical annals, June 1921.

1118. **Turner, C. E.** Health teaching and the school health program. American journal of public health, 11:717-20, August 1921.

SEX HYGIENE.

1119. Kefauver, Christine R. Sex education of the child: how the nurse may help. *American journal of nursing*, 21:779-82, August 1921.

PHYSICAL TRAINING.

1120. Holmes, P. K. Sanity as related to athletics. *Educational review*, 62:55-63, June 1921.

Discusses the danger of overtraining, the fostering of various forms of professionalism, etc. Deprecates the dominance of alumni and student control of athletics.

PLAY AND RECREATION.

1121. Batchelor, W. C. The educational significance of recreative activity. *American physical education review*, 26:222-28, May 1921.

Given before the New century club, February 8, 1921.

Recreative activity is not only a "vital factor in any educational system but the very foundation and essence of education itself."

SOCIAL ASPECTS OF EDUCATION.

1122. Carothers, W. H. The money value of education. *Teaching*, 5:16-21, April 1921.

Education has practical, financial value.

1123. Jarrett, Mary C. The educational value of psychiatric social work. *Mental hygiene*, 5:509-18, July 1921.

Says that the two great opportunities for preventive social work are in the school and in industry. Discusses social service through visiting teachers, who are trained in psychiatric work.

CHILD WELFARE.

1124. Clopper, Edward N. Child welfare in Tennessee; an inquiry by the National child labor committee for the Tennessee child welfare commission. [Nashville, Printing department, Tennessee industrial school, 1920] 616 p. 8°.

CONTENTS.—Introduction, E. N. Clopper.—The child and the state, W. H. Swift.—Health, H. H. Mitchell.—Schools, Gertrude H. Folks.—Recreation, R. G. Fuller.—Rural life, C. E. Gibbons.—Child labor, Mrs. Mary H. Mitchell.—Juvenile courts, Mabel B. Ellis.—Mothers' pensions, Mabel B. Ellis.—Institutions, Sara A. Brown.—Home finding, Sara A. Brown.

RELIGIOUS AND CHURCH EDUCATION.

1125. Cope, Henry Frederick. The parent and the child; case studies in the problems of parenthood. New York, G. H. Doran company [1921] 184p. 12°.

Aims to be a practical handbook for parents in moral and religious training in the family by applying the "case method" to this subject.

1126. Dunney, Joseph A. The parish school; its aims, procedure, and problems. New York, The Macmillan company, 1921. xix, 326p. fold. charts. 12°.

A general survey of the Roman Catholic parochial school—its aims, principles, organization, procedure, and problems.

1127. Kandel, I. L. The vitalizing of Jewish education. *Menorah journal*, 7:84-91, June 1921.

Advocates for the Jewish school a curriculum which makes the living present its starting point and links it with the remote past.

1128. Kelly, Robert L. Biblical history and literature as a college entrance requirement. *Religious education*, 16:199-207, August 1921.

Gives a list of institutions accepting Bible history and literature as entrance credit.

1129. **Kepley, Charles Everett.** The rural Sunday school. Columbia, S. C., University of South Carolina, 1921. 51 p. 8°. (Bulletin of the University of South Carolina. no. 99, June 1921)

Gives the general principles for the organization and operation of rural Sunday schools.

1130. **Kirsch, Felix M.** The future of the small college. Catholic educational review, 19:431-45, September 1921.

Paper read at the 18th annual meeting of the Catholic educational association, held at Cincinnati, Ohio, July, 1921:

1131. **McClure, Haven.** The contents of the New Testament; an introductory course. New York, The Macmillan company, 1921. 219p. 12°.

This book is the outcome of a number of years' classroom experience in teaching the New Testament as an elective English course in a public high school of over 500 students. It analyzes the contents of each New Testament writing by applying present-day methods of literary and historical research in a manner intelligible to the younger mind and to the general reader.

1132. **Richards, George Warren.** The function of the Christian college. Educational review, 62:116-26, September 1921.

Holds that a Christian college is true to its name when it deliberately aims to give its students the Christian ideal of life and to inspire in them the resolute purpose to practice it in all individual and social relations.

1133. **Ryan, James H., comp.** Directory of Catholic colleges and schools. Washington, D. C., National Catholic welfare council, Bureau of education, 1921. 980, xxx p. 8°.

A list of Catholic educational institutions in the United States, with names of officers and statistics.

MANUAL AND VOCATIONAL TRAINING.

1134. **Aurner, Clarence Ray.** Mechanics' institutions. Iowa journal of history and politics, 19:389-413, July 1921.

Recalls the efforts made a century ago to graft scientific and cultural studies upon mechanical training, by establishing mechanics' institutions.

1135. **California.** State board of education. Documents relating to vocational education. Sacramento, California state printing office, 1921. 84p. 8°. (*Its Bulletin* no. 23-A. Fiscal year 1921-22)

CONTENTS.—I. General information relating to the administration of vocational education in California.—II. General regulations of the State board of education for the establishment and maintenance of federal and state aided vocational education in the public intermediate and secondary schools of California.—III. Requirements for teachers of vocational subjects under the provisions of the federal and state vocational education acts.—IV. Plan for the supervision of vocational courses in agriculture.—V. Plan for the training of vocational teachers.

1136. **Canada.** Department of labour. Proceedings of the first national conference on technical education Canada, Ottawa, October 25-26 1920. Issued by the director of technical education, Department of labour, Canada. Ottawa, T. Mulvey, printer to the King's Most Excellent Majesty, 1921. 76p. 8°. (Bulletin no. 1. Vocational education series)

1137. **Douglas, Paul H.** American apprenticeship and industrial education. New York, Columbia university; London, P. S. King & Son, ltd., 1921. 348p. 8°. (Studies in history, economics and public law. vol. xcv, no. 2. Whole no. 216.)

- ✓ 1138. **MacDonald, D. J.** Part-time classes in industrial education. Educational review, 62:1-9, June 1921.

Discusses the standard method of securing suitable subject matter for the classes. Writer says that certain definite questions must be faced, viz: (1) What is meant by suitable subject matter? (2) What are the objectives aimed at in part-time classes? and (3) What are the chief factors that must be reckoned with, in trying to attain the stated objectives?

- ✓ 1139. **Winslow, L. L.** A constructive plan for the organization and administration of junior high school courses in industrial arts for boys. Industrial-arts magazine, 10:243-47, July 1921.

It is desirable to include in all junior high school courses, as much experience of prevocational worth as possible. These schools should assist the pupils in selecting an occupation.

VOCATIONAL GUIDANCE.

1140. **Brewer, John M.** The aims and methods of vocational guidance. Educational review, 62:10-21, June 1921.

Approves the study of the actual opportunities in and problems of the occupational world. Says that the best way to accomplish this is to organize definitely a class for the study of occupations.

1141. ——— Practical arts for vocational guidance in the junior high school. Manual training magazine, 23:69-72, September 1921.

1142. **Jacobs, Charles L.** Bibliography on vocational guidance; a selected list of vocational guidance references for teachers. Washington, D. C., Federal board for vocational education, 1921. 35 p. 8°. (Bulletin no. 66. Trade and industrial series no. 19. June, 1921)

Many of the titles in this list are fully annotated.

1143. **Jones, Arthur J.** Vocational guidance and education. Educational review, 62:10-21, June 1921.

Discusses the value of vocational guidance, but criticises the extravagant claims made for it.

1144. **Leigh, Mildred B.** Vocational guidance for college women. Educational review, 62:34-45, June 1921.

Describes the work of the various college alumnae in securing employment for college graduates. Emphasizes the importance of the work.

HOME ECONOMICS.

1145. **Davenport, Eugene.** Home economics at Illinois. Journal of home economics, 13:337-41, August 1921.

"Presented at the Recognition service in honor of Professor Isabel Bevier, May 26, 1921."

1146. **Denny, Grace.** Practical teaching of textiles in high schools. Journal of home economics, 13:342-45, August 1921.

"Methods and teaching agencies": p. 345.

1147. **Snedden, David.** Household arts for junior high schools. Journal of home economics, 13:289-96, July 1921.

Address delivered before the Household arts section of the Eastern arts association, Baltimore, March, 1921.

COMMERCIAL EDUCATION.

1148. **National foreign trade convention.** Group one. Commercial education for foreign trade. In Official report of the eighth National foreign trade convention, held at Cleveland, Ohio, May 4-7, 1921. New York, 1921. p. 47-78. (O. K. Davis, secretary, National foreign trade council, New York, N. Y.)

Contains: 1. J. A. De Haas: Fundamentals in foreign trade education, p. 47-56. 2. W. S. Tower: Means of getting an international viewpoint in foreign trade education, p. 57-63. 3. Discussion, p. 64-78.

1149. **Training for a new profession.** Current affairs (Boston, Mass.) 12:3-4, 32, August 1, 1921.

An account of the first school for commercial organization secretaries, held at Northwestern university, Evanston, Ill., July, 1921.

LEGAL EDUCATION.

1150. **Reed, Alfred Zantzinger.** Training for the public profession of the law. Historical development and principal contemporary problems of legal education in the United States, with some account of conditions in England and Canada. New York city, 522 Fifth avenue, 1921. xviii, 498 p. 8°. (Carnegie foundation for the advancement of teaching. Bulletin no. 15)

This report presents not merely a criticism of the existing law schools, and of present day tendencies in the professional training of lawyers, but it describes the history and progress of American legal education. It undertakes to make clear the relation of the bar and of the bar examinations to legal education. The present volume is to be followed by one dealing with the contemporary situation in greater detail.

MEDICAL EDUCATION.

1151. **Foote, John.** How to meet examination problems. Trained nurse and hospital review, 67:205-9, September 1921.
1152. **Hamilton, Arthur S.** Graduate training in nervous and mental diseases. Journal of the American medical association, 77:559-62, August 27, 1921.
Advocates a properly standardized course of study for those who desire to fit themselves for a career in neuropsychiatry. Outlines such a course.
1153. **Karsner, Howard T.** "Progressive education" in the teaching of pathology. Science, n. s., 54:81-84, July 29, 1921.
Emphasizes the value of the informal recitation as permitting a better evaluation of the ability of the individual student than is possible with the more formal and more autocratic recitation conducted by the teacher.
1154. **Medical education in the United States.** Journal of the American medical association, 77:527-56, August 13, 1921.
Review of education for 1921 by the Council on medical education and hospitals. Gives statistics of medical colleges in the United States and Canada; distribution of students by states; entrance requirements, etc.
1155. **Muller, George P.** Graduate instruction in surgery. Journal of the American medical association, 77:503-6, August 13, 1921.
Suggests that the medical schools of the universities affiliate with high-class hospitals. Discusses the work of the Committee on postgraduate instruction in surgery.
1156. **National league of nursing education. Committee on education.** Preliminary report on university schools of nursing. American journal of nursing, 21:799, August 1921.
Gives summary of courses in a few existing university schools. Continued from July number p. 716.

CIVIC EDUCATION.

1157. **Boas, Ralph Philip, ed.** Youth and the new world. Essays from the Atlantic monthly. Boston, The Atlantic monthly press [1921] viii, 320 p. 12°.
Stimulating essays for young people on the relation of youth's new time to the experience of age; education; the spirit of America; Americanization; women and the state; the problem of international organization; and, finally, the importance of spiritual values.
1158. **Christophelsmeier, Carl.** Citizenship and the schools. South Dakota educator, 34:16-19, 34-39, June 1921.
Article deals not so much with the elementary aspect of citizenship, which is a matter of birth or naturalization, as with the question of good citizenship, which is a matter of education.
1159. **Hart, Joseph K.** Social science in the schools. Survey, 46:591-92, August 16, 1921.
Says that while almost all schools are reputed as giving civics courses of some sort, less than 50 per cent are giving courses of a modern, positive, constructive sort. Discusses data collected by the National committee for teaching citizenship.
1160. **Jelliffe, Ella K.** America's making. Education, 42:21-26, September 1921.
An outline of work in the public schools in preparation for the festival and exhibit called "America's making," to be presented by societies, schools, churches, libraries, museums, and citizens of New York, during October, 1921, under the auspices of the state and city departments of education.
1161. **New York (State) Legislature.** Revolutionary radicalism; its history, purpose, and tactics, with an exposition and discussion of the steps being taken and required to curb it; being the report of the Joint legislative committee investigating seditious activities, filed April 24, 1920, in the Senate of the state of New York. Albany, J. B. Lyon company, printers, 1920. 4 v. plates. 8°.
Vols. I and II deal with subversive movements; Vols. III and IV take up constructive measures, and are mainly devoted to Educational training for citizenship, both in New York and in other states of the Union.

AMERICANIZATION.

1162. **Akron, Ohio. Board of education.** Akron public schools, 1920-1921. Department of Americanization. Annual report. [31] p. illus. 8°.
Bibliography: p. [28-31].

1163. **Clark, E. Everett.** The Akron plan. Survey, 46:518-19, July 16, 1921.
Describes the Americanization work in Akron, Ohio, which is supported, controlled, and directed by the Board of education of the city.
1164. **Hart, Helen.** State programs of immigrant education. Survey, 46:516-18, July 16, 1921.
Outlines the state programs of Massachusetts and New York. Gives typical programs.
1165. **Jordan, Riverda Harding.** Nationality and school progress; a study in Americanization. Bloomington, Ill., Public school publishing company [1921] 105 p. tables. 12°. (School and home education monographs, no. 4.)
Thesis (Ph. D.)—University of Minnesota, 1921.
This investigation of school children with reference to nationality and progress was made in various public schools of Minneapolis and St. Paul which were selected as representative of social groups in these cities. The conclusions are a contribution toward the information now available for the determination of the influence of nationality on school progress. There are not yet available instruments for measuring school progress so well designed and standardized as to detect the exact effects of nationality, apart from other factors involved.
1166. **Rosenstein, David.** Contributions of education to ethnic fusion in America. School and society, 13:673-82, June 18, 1921.
A comment on Julius Drachsler's Democracy and Assimilation.
1167. **Weber, Joseph J.** A little island of foreigners. Survey, 46:548-50, August 1, 1921.
Describes a group of Russian immigrants settled in North Dakota; their schools, etc. Americanization work among them.

EDUCATION OF SERVICE MEN.

1168. **Knappen, Theodore M.** The army as a school. American review of reviews, 63:627-35, June 1921.
The army as a school for social, scientific and vocational education. Describes its effective vocational training.

EDUCATION OF WOMEN.

1169. **Austin, Mary.** American women and the intellectual life. Bookman, 53: 481-85, August 1921.
1170. **Chaubal, M. B.** The aims of the Women's university. Indian review, 22: 443-44, July 1921.
Part of the convocation address of the chancellor of the Indian women's university, June 19, 1921, showing what has been accomplished by the university during the five years of its existence. The institution provides for the higher education of women through the Indian vernaculars.
1171. **Mann, Kristine.** Hygiene in the woman's college. Educational review, 62: 46-57, June 1921.
1172. **Shuler, Marjorie.** Teaching women politics. American review of reviews, 64:274-77, September 1921.
Tells of numerous schools of citizenship for women established at various colleges and universities and elsewhere, with particular attention to the citizenship school for women to be conducted at Yale university, during the week of October 24, 1921.
1173. **Woodward, Elizabeth A.** Educational opportunities for women from other lands. With a chapter on legislation affecting women by Esther Everett Lape. [Albany, The University, 1920.] cover-title, 35 p. front, plates. 8°. (University of the state of New York bulletin no. 718, Sept. 15, 1920.)
"Bibliography" 33-35.

NEGRO EDUCATION.

1174. **Moroney, T. B.** The Americanization of the Negro. Catholic world, 113: 577-84, August 1921.
Shows the work that the Catholics have been and are doing for the education of Negroes.
1175. **Negro education in North Carolina.** School and society, 14:53, July 30, 1921.
The State department of education of North Carolina has created a division of Negro education, with an enlarged staff of white and colored assistants.
1176. **Ransom, Reverdy C.** Educational problems. Southern workman, 50: 417-20, September 1921.
Excerpts from an address before a union meeting of preachers, farmers, and teachers in conference week at Hampton institute, June 1921.

EDUCATION OF DEAF.

1177. **Panconcelli-Calzia, G.** What experimental phonetics has accomplished for the instruction of the hard of hearing and the deaf. *Volta review*, 23: 417-22, September 1921.

Describes the work in applied experimental phonetics of German investigators. Studies in the phonetic laboratory of the University of Hamburg, etc.

1178. **Thompson, Iza.** The sensitive flame of the Bunsen burner as an aid to voice production and speech for the congenitally deaf child. *Volta review*, 23: 397-99, September 1921.

EXCEPTIONAL CHILDREN.

1179. **Barrows, Franklin W.** The relation of physical examinations to public school special classes. Utica, N. Y., State hospitals press, 1921. 6p. 8°.

Reprinted from the State hospital quarterly, February 1921.

1180. **Shrubsall, F. C.** The ascertainment of mental deficiency. *School hygiene* (London) 12:115-37, August 1921.

Delivered at the Conference of the school medical officers of Scotland in Edinburgh, April 7, 1921.

EDUCATION EXTENSION.

1181. **Bazeley, E. T.** Two experiments in voluntary continuation schools. *Journal of experimental pedagogy* (London) 6:82-89, June 1921.

Describes the cooperation between English business houses and training college. Second paper.

LIBRARIES AND READING.

1182. County libraries of California. Survey, 46:520-21, July 16, 1921.

1183. **Harris, Muriel.** On reading aloud. *North American review*, 214:345-51, September 1921.

Writer says that nineteenth century scholarship, which has no mean roll of names, read aloud with zest. Reading aloud has fallen away at present, because it is at a disadvantage in competition with the quicker methods of the cinematograph, of nature-study, and of reading alone.

- ✓ 1184. **Miller, Zana K.** How to organize a library. Boston, New York [etc.] Library bureau [1921] 40p. illus. 12°.

- ✓ 1185. **Skinner, Margaret M.** The use of recent literature in the high school. *Publishers' weekly*, 100:171-80, July 23, 1921.

Paper delivered at the meeting of the National education association at Des Moines, Iowa, July 16, 1921.

- ✓ 1186. **Tryon, R. M.** The history library and its use in one hundred public high schools in Illinois. *School and home education*, 40:161-66, May-June 1921.

Some guiding principles for the upbuilding of high school history libraries should be decided upon, such as, i. e., to work on the principle of a well-balanced classified library, and the selection of a dozen books in each field of history taught.

BUREAU OF EDUCATION: RECENT PUBLICATIONS.

1187. Educational survey of the University of Arkansas; summary of conclusions and recommendations. Washington, 1921. 43p.

A digest of the report of a survey of the University of Arkansas, made at the request of the legislative committee in charge of the survey, under the direction of the United States Commissioner of education.

1188. Educational work of the commercial museum of Philadelphia; by Charles R. Toothaker. Washington, 1921. 28p. 12 plates. (Bulletin, 1920, no. 13)

1189. The Francis Scott Key school, Locust Point, Baltimore, Maryland; by Charles A. Bennett. Washington, 1921. 31p. (Bulletin, 1920, no. 41)

1190. The function concept in secondary school mathematics; a report by the National committee on mathematical requirements. Washington, 1921. 11p. (Secondary school circular no. 8. June, 1921)

1191. State laws relating to education enacted in 1918 and 1919; comp. by William R. Hood. Washington, 1921. 231p. (Bulletin, 1920, no. 30)

DEPARTMENT OF THE INTERIOR
BUREAU OF EDUCATION

BULLETIN, 1921, No. 30

**SALARIES OF ADMINISTRATIVE OFFICERS
AND THEIR ASSISTANTS IN SCHOOL SYSTEMS
OF CITIES OF 25,000 INHABITANTS
OR MORE**

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SALARIES OF ADMINISTRATIVE OFFICERS AND THEIR ASSISTANTS IN SCHOOL SYSTEMS OF CITIES OF 25,000 INHABITANTS OR MORE.

INTRODUCTION.

By P. P. CLAXTON

Only a few years ago the public schools of most of the largest cities of the United States were constantly "in politics." Superintendents and their assistants all too frequently came and went with changing administrations of city affairs. Individual members of boards, aldermen, or city councils, through political pull obtained the appointment of some teachers and the dismissal of others, thus paying political debts and squaring political animosities. Boards of education, usually very large, made up chiefly of ward politicians, more or less under the control of the "bosses" of the wards from which they were appointed or elected and the representatives of which they understood themselves to be, were uncertain both as to their rights and their powers, servilely yielding or stubbornly antagonizing mayors and boards of aldermen that constantly interfered, sometimes domineeringly, with their duties.

They in turn interfered, both as boards and as individuals, without regard to any sound principles of administration, with the duties of the superintendent of schools and his assistants. Too often there was apparent reason for such interference because of the inefficiency of low-salaried superintendents and the failure of boards to provide the office of the superintendent with a sufficient number of competent and adequately paid administrative assistants. Boards, too large to function effectively as a whole, were subdivided into many standing and special committees which attempted to do, but ineffectively and wastefully, a wide range of things that should have been left wholly to the superintendent and his assistants.

When they did not thus interfere harmfully, school boards required of the superintendents of schools and their small corps of low-paid assistants, where there were any, a wide range of tasks, which were, because of their variety, number, and size, utterly beyond the ability of educators trained for the schoolroom and interested chiefly in courses of study and methods of teaching. The superintendent was too often expected, with the help only of an inadequate corps of inexperienced and inefficient clerks, to direct the details of expenditures

of hundreds of thousands or even millions of dollars, look after the erection of buildings, purchase all fuel and supplies, keep accounts of all receipts and expenditures, employ janitors and supervise their work, serve as sanitary and health inspector, examine teachers, make reports, statistical and other, and look after a thousand and one details of organization and administration—all of which took so much of his time and strength that the important function of directing wisely the educational work of the schools, for which the superintendent was fitted by disposition and training and for which all else in the school system exists, had to be neglected. In attempting to save thousands of dollars in the salaries of superintendents and their offices, tens and hundreds of thousands were lost through the lack of definite and effective administration, business management, and accounting.

Sometimes there was actual antagonism between the board and the superintendent of schools, or at least a total lack of any feeling of authority on the one side or of responsibility on the other. Frequently the superintendent could not be held responsible for the work of the schools because he was given little or no authority. Still more frequently the board could not be held responsible for the efficiency and success of the schools because, although given apparent authority, it had little real authority, not being able to control its budget. The board complained of the superintendent, the people complained of both, and the schools failed of their purpose because neither the board nor the superintendent was given the means or the freedom and authority necessary to all good and successful work.

Conditions are still far from perfect, but they are much better than they were only a decade or two ago, and are improving. There is a much better understanding of the powers, functions, responsibilities, and methods of procedure, both of boards and of superintendents. They are beginning to understand each other better, to differentiate their functions more clearly, and to respect more the authority and responsibility, each of the other. The people and their representatives in legislative bodies and administrative offices have gained a higher conception of the work of the schools and are therefore inclined to interfere less and to help more by recognizing more fully the authority, the responsibility, and the rights both of school boards and school superintendents, and by voting and appropriating more adequate funds for the equipment and support of the schools.

For any large city, and in most respects for any small city or town as well, the ideal would probably be somewhat as follows; at least this is what is recommended by the Bureau of Education:

I. A small board of five or seven members elected by the people on a nonpartisan ticket from the city at large, or appointed by the mayor and confirmed by the city council. Election by the people is more

democratic and, in most cases, better than appointment. If the board is appointed, it should be made as nearly as possible nonpartisan by stipulating that not more than three out of five or four out of seven members may be of any one political party. The term of office should be for as many years as there are members of the board; the term of one member expiring each year. On an appointive board, no person having served two terms in succession should be eligible for reappointment. Members of the board should be removable only by a majority vote at a properly constituted election or upon conviction of crime or gross neglect of duty. There should be no means by which the whole or a part of the board could be removed for sinister purpose by the mayor, the city council, or any other political or semipolitical body.

Members of boards should not be paid a salary. Salaried members of boards are in danger of the temptation of wanting to earn their salaries by administrative activities that should be left to the superintendent and other employees of the board. The board should regard itself as a legislative and policy-making body like unto the boards of directors of a bank or any other business or industry. Its members should remember that they have no more individual authority than have the members of any other legislative body and that when the board is not in session they are only ordinary citizens, subject like all other citizens to the rules and policies of the board itself. No member should ever assume to make promises for the board or to speak for it except when duly authorized to do so. The number of standing and special committees should be reduced to a minimum. A small board with a competent superintendent and administrative staff should have little need of standing committees. The board should elect its own chairman annually and employ a competent secretary from outside its own membership. It should hold open meetings at stated times, not too frequent, should require attendance of its members, and not do business without a quorum actually present. All action should be taken by formal vote and should be duly and accurately recorded. The records of the board should be open for the inspection of the public and all important actions affecting the policy should be published promptly in the public prints. The superintendent of schools should be expected to attend all meetings of the board except when his own election, his salary, or other matters pertaining to his own interests are being voted on.

Under the provisions of the charter of the city, the constitution of the State, and the acts of the legislature, the board of education should have entire control of the schools, be held responsible for their success, and should be given such power as necessarily accompanies such responsibility. Among the powers of the board should be the

making of its budget without review by any other body, determining and carrying out its own program of building, repairing and equipping schoolhouses, including their location and the purchasing of sites, and within limits prescribed by law levying taxes and issuing and selling bonds for school purposes.

II. As its administrative agent the school board should employ a competent superintendent of schools. To assist in assuring his competency, the salary should be made large enough and the conditions of employment such as to attract men of first-rate ability, preparation, and successful experience. No man worthy of the position of superintendent of schools works for pay alone or thinks of salary first, but in America, where we have put everything on a money basis and have eliminated to a large extent at least patronage, favoritism, and special privilege, we should not expect such service as is required of a superintendent of schools in a city of any size for much less pay than a man of equal ability might earn elsewhere for services requiring as much effort and responsibility and no more risk or uncertainty. No superintendent whose heart is in his work will want the difference between his own salary and the salary of his assistants and the teachers to be so great as to create discontent or result in giving to a competent head incompetent assistants. Yet since the value of all the work of all connected with the school system depends on the wisdom, energy, tact, and executive ability of the superintendent, it is utmost folly for a board to attempt to save money by skimping his salary. This is coming to be understood and is recognized more and more, as is shown by a comparison of salaries of superintendents given in this bulletin with the salaries of superintendents in the same cities 10 or 20 years ago.

In every large city the superintendent of schools should have the assistance of a competent business manager and assistant superintendent for each important division of the school work, and should have under his direction a competent corps of directors or supervisors of special subjects. There should also be under his direction an efficient bureau of research or investigation and statistics. There should also be sufficient clerical and office help to relieve the superintendent and all his assistants from time and energy consuming details and leave freedom for larger and more important tasks. Through these, under the general authority of the board of education and in harmony with its larger policies, the administration of the schools should be such as to bring out and utilize to the fullest possible extent all the latent energies of all administrative and supervising officers and all teachers and students. Everywhere there should be such definiteness of purpose, combined with such freedom of initiative, as will inspire the heartiest and most effective coopera-

tion for the fullest attainment of the great work of the schools, the right education of all the children, and the inspiration of the entire community with higher ideals, inspiring purposes, and clearer conceptions of the duties and responsibilities of patriotic American citizens.

In Bulletin, 1917, No. 8, was given an analysis of the constitution and powers of the boards of education in these cities.

In Bulletin, 1917, No. 46, the report of the survey of the schools of San Francisco, pages 83-88, is a clear and comprehensive statement of the functions of the board of education and the superintendent of schools on the basis of analogy with the business corporation. Readers of this bulletin are referred to these two bulletins.

In this bulletin are given the salaries paid administrative and supervisory officers in cities having a population of 25,000 or over, also the salaries paid all employees connected with the school administrative offices in cities having a population of over 100,000. Unfortunately some of the superintendents in this group of cities did not report with the same degree of fullness of detail, as the request for information was not interpreted in the same way by all to whom it was sent. But, upon the whole, the data are sufficiently complete to furnish valuable information to boards of education and others making a study of the salaries of superintendents, supervisors, and other persons connected with the various administrative offices.

Salaries of certain officers in city school departments of education in cities of over 100,000 population.

[NOTE.—Blank spaces do not necessarily indicate that the school system does not have certain positions, but that the city did not report the positions or reported in such way that the data could not be tabulated. For example, some superintendents gave the salaries of supervisors without stating for what subject or purpose the supervisors are employed. Where there are several assistant or associate superintendents, the highest salary is given.]

Cities.	Supervisors or directors.														Chief attend- ance officer.	Secre- tary to school board.	Busi- ness man- ager or superin- tendent of sup- plies.	Super- intend- ent of build- ings.	Assist- ant super- intend- ent of schools.	Super- intend- ent of schools.
	Art.	Music.	Pen- man- ship.	Kinder- garten.	Pri- mary grades.	Home eco- nomics.	Man- ual train- ing.	Phys- ical educa- tion.	Health.	Special classes.	Educa- tional meas- ure- ments and re- search.									
Average.....	\$7,336	\$4,664	\$3,676	\$4,720	\$3,831	\$2,526	\$2,874	\$3,036	\$2,639	\$2,818	\$2,827	\$2,740	\$3,305	\$2,987	\$3,134	\$3,017	\$4,187			
Akron, Ohio.....	9,000	5,500	4,000	5,500	.....	2,000	2,600	2,600	2,500	2,500	2,500	.....	2,500	2,600	.....	.....	3,600
Albany, N. Y.....	6,000	.....	3,050	.....	2,500	1,700	3,200	3,050	.....	2,500	.....	.....	2,500	3,400	.....	3,200	.....		
Atlanta, Ga.....	5,000	3,600	2,400	.....	.....	1,080	.....	.....	.....	.....	1,736	.....	.....	.....	.....	.....	.....
Baltimore, Md.....	8,000	6,000	2,300	.....	2,750	.....	2,000	2,500	.....	2,100	.....	2,000	2,900	2,000	.....	.....	.....
Birmingham, Ala.....	7,500	5,000	2,400	.....	2,700	2,000	2,200	2,500	2,000	.....	2,200	2,500	2,400	2,700	2,700	2,100	.....		
Boston, Mass.....	10,000	.....	3,000	4,740	4,740	2,880	.....	3,540	2,004	2,740	.....	2,820	3,540	3,340	3,000	2,260	3,510
Bridgeport, Conn.....	6,000	4,000	.....	2,400	.....	.....	2,300	2,500	1,950	.....	.....	.....	.....	2,600	.....	.....	.....
Buffalo, N. Y.....	10,000	4,800	5,000	.....	3,000	.....	3,220	3,220	.....	2,460	2,460	.....	.....	2,460	.....	2,460	.....		
Cambridge, Mass.....	6,000	4,320	2,500	3,000	.....	1,800	3,750	3,750	.....	.....	.....	4,500	5,000	4,500	.....	5,000	.....		
Chicago, Ill.....	12,000	8,100	8,000	10,000	.....	5,300	3,600	3,600	3,600	3,000	.....	3,200	3,500	3,600	.....	.....	.....
Cincinnati, Ohio.....	10,000	5,000	.....	5,000	.....	.....	3,600	3,600	3,600	3,000	.....	3,500	3,680	3,560	3,300	3,000	4,500
Cleveland, Ohio.....	10,000	6,500	4,500	4,000	.....	4,000	3,560	3,680	3,560	3,000	.....	3,560	3,680	3,560	3,600	.....	.....	
Columbus, Ohio.....	7,500	4,500	3,000	4,000	.....	1,560	2,625	2,625	.....	2,135	.....	2,250	2,250	2,625	3,600	.....	.....	
Dallas, Tex.....	7,200	6,000	3,000	3,000	4,800	.....	3,000	3,000	.....	.....	3,000	.....	.....	2,000	3,600	.....	.....	
Dayton, Ohio.....	6,120	.....	2,520	3,000	4,000	.....	2,050	2,550	2,050	1,750	.....	2,550	2,550	2,050	.....	.....	.....
Denver, Colo.....	8,000	5,000	.....	5,000	4,000	2,400	2,590	3,500	2,640	.....	.....	2,740	2,940	2,050	.....	.....	3,240
Des Moines, Iowa.....	7,500	4,000	3,500	4,200	.....	3,500	2,412	2,700	2,167	2,412	3,000	2,340	3,400	2,540	.....	.....	2,500
Detroit, Mich.....	9,000	7,680	.....	5,200	.....	3,000	4,000	4,000	4,000	2,400	.....	4,000	4,000	4,000	1,758	4,800	6,000
Fall River, Mass.....	5,000	3,400	.....	.....	.....	1,800	2,880	2,880	.....	.....	2,280	2,120	4,000	2,400	.....	.....	.....
Houston, Tex.....	6,000	.....	.....	3,600	.....	.....	2,600	2,400	2,500	.....	2,700	2,100	2,700	3,800	4,200	.....	3,600
Indianapolis, Ind.....	8,000	4,500	3,500	6,000	.....	3,000	3,500	3,500	3,000	.....	2,700	2,300	3,500	3,800	.....	.....	.....
Jersey City, N. J.....	10,500	5,400	2,500	.....	4,250	2,800	4,100	3,800	3,000	.....	3,900	4,100	4,100	3,800	2,500	2,300	.....		
Kansas City, Kans.....	5,000	.....	3,000	.....	3,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kansas City, Mo.....	7,500	4,740	.....	.....	3,000	.....	.....	.....	.....	3,800	.....	.....	.....	.....	.....	.....	4,980
Lowell, Mass.....	5,000	.....	.....	3,100	.....	3,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Los Angeles, Calif.....	8,000	4,800	.....	5,000	3,900	3,600	3,840	3,840	3,840	3,840	.....	3,840	3,840	3,840	3,900	.....	3,600
Louisville, Ky.....	5,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Memphis, Tenn.....	5,000	.....	.....	.....	3,000	1,320	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Milwaukee, Wis.....	9,000	5,000	.....	7,200	.....	3,840	3,840	3,840	.....	.....	4,620	3,840	3,840	3,840	.....	3,480	.....		
Minneapolis, Minn.....	8,000	4,500	3,600	5,000	.....	3,000	2,750	3,200	2,200	.....	.....	2,500	3,300	3,300	.....	.....	.....

SALARIES OF ADMINISTRATIVE OFFICERS.

Salaries of administrative and supervisory officers in cities of 25,000 to 100,000 population.

SALARIES OF ADMINISTRATIVE OFFICERS.

9

Evansville, Ind.	6,800	4,000	2,500	(12)	1,800	2,000	2,000	1,000	1,000	1,000	2,000
Evansville, Ind. (Dist. No. 76)	6,000	3,500	1,750		1,800	1,500	1,500				1,500
Joliet, Ill.	7,000		4,000		2,500	2,500	2,500	8,000			
Moline, Ill.	5,400		2,200		1,400	1,000	1,000				
Oak Park, Ill.	6,500		3,000		2,400	2,000	2,000				
Pekin, Ill.	5,500		2,100	(11)	1,000	1,000	1,000	2,500	(11)	2,500	2,000
Quincy, Ill.	7,000		2,500	(11)	2,350	2,000	2,000	1,000	1,000	1,000	2,000
Rockford, Ill.	6,000		2,400	(11)	2,000	1,800	1,800				
Rock Island, Ill.	6,000		2,400		2,000	1,800	1,800				
Springfield, Ill.	4,800		1,300		2,500	2,000	2,000	2,000			
Anderson, Ind.	6,000		4,000		2,000	2,000	2,000	2,000			
Fort Wayne, Ind.	10,000	5,300	3,000		2,000	2,000	2,000	2,000			
Gary, Ind.	5,000		1,000		2,000	2,000	2,000	2,000			
Hammond, Ind.	4,800		1,000		2,000	2,000	2,000	2,000			
Kokomo, Ind.	4,000		1,800		2,000	2,000	2,000	2,000			
Muncie, Ind.	4,000		2,100		2,000	2,000	2,000	2,000			
Richmond, Ind.	5,400		2,000		2,000	2,000	2,000	2,000			
South Bend, Ind.	5,000		2,000		2,000	2,000	2,000	2,000			
Terre Haute, Ind.	4,000		2,000		2,000	2,000	2,000	2,000			
Cedar Rapids, Iowa	6,500	3,750	3,375	(11)	2,350	2,000	2,000	2,000			
Council Bluffs, Iowa	6,250		2,500		2,000	2,000	2,000	2,000			
Davenport, Iowa	4,500		2,000		2,000	2,000	2,000	2,000			
Dubuque, Iowa	7,600	3,800	3,000		2,000	2,000	2,000	2,000			
Sioux City, Iowa	6,000		2,500		2,000	2,000	2,000	2,000			
Kansas City, Kans.	6,000		2,500		2,000	2,000	2,000	2,000			
Topeka, Kans.	6,300		2,500		2,000	2,000	2,000	2,000			
Wichita, Kans.	6,300		2,500		2,000	2,000	2,000	2,000			
Covington, Ky.	4,200		2,000		2,000	2,000	2,000	2,000			
Lexington, Ky.	4,200		2,000		2,000	2,000	2,000	2,000			
Newport, Ky.	5,000	3,500	1,500		2,000	2,000	2,000	2,000			
Shreveport, La.	3,300		1,500		2,000	2,000	2,000	2,000			
Bangor, Me.	3,600	1,500	1,500		2,000	2,000	2,000	2,000			
Lawton, Me.	3,300		1,500		2,000	2,000	2,000	2,000			
Portland, Me.	6,000	2,000	1,750		2,000	2,000	2,000	2,000			
Hagerstown, Md.	4,000		1,500		2,000	2,000	2,000	2,000			
Brockton, Mass.	5,000		1,500		2,000	2,000	2,000	2,000			
Brookline, Mass.	6,000		1,500		2,000	2,000	2,000	2,000			
Chelsea, Mass.	4,000		1,500		2,000	2,000	2,000	2,000			
Everett, Mass.	4,500	1,800	1,500		2,000	2,000	2,000	2,000			

1,100.

and superintendent of buildings, one person.

In.

previous, grades, \$1,500; high school, girls, \$1,750.

at \$1,200.

at \$2,448.

14 Disbursement of cost

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Salaries of administrative and supervisory officers in cities of 25,000 to 100,000 population—Continued.

Cities.	Supervisors or directors.																							
	Superintendent of schools.	Assistant superintendent of schools.	Secretary of school board.	Business manager.	Superintendent of buildings.	Chief attendance officer.	Kindergartens.	Kindergarten—primary grades.	Primary grades.	Intermediate and grammar grades.	Music.	Art.	Manual training.	Home economics.	Play.	Physical education.	Educational tests and measurements.	Psychological tests.	Vocational education.	Continuation schools.	Evening schools.	Special classes.	Medical inspector.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
Fitchburg, Mass.	\$4,500	.....	.....	.....	\$2,200	\$2,200	.....	\$2,500	.....	\$2,300	\$1,800	\$1,800	.....	.....	.....	\$2,500	.....	.....	.....	\$2,000	.....	.....	.....	\$1,600
Haverhill, Mass.	6,000	.....	.....	.....	1,950	1,950	(*)	(*)	.....	.....	2,400	2,250	\$3,050	2,100	.....	2,750	.....	.....	.....	2,500	.....	.....	.....	2,750
Holyoke, Mass.	4,400	\$3,450	(1)	.....	.....	2,100	.....	.....	.....	.....	2,400	2,920	.....	.....	.....	.....	.....	.....	3,000	2,550	.....	.....	.....	2,600
Lawrence, Mass.	4,900	2,670	.....	.....	.....	2,100	.....	.....	\$2,000	.....	2,200	1,700	.....	.....	.....	.....	.....	.....	.....	2,780	\$1,000	.....	.....	2,600
Lynn, Mass.	3,900	2,800	.....	.....	.....	1,500	.....	.....	.....	.....	2,600	2,800	.....	.....	.....	2,600	.....	.....	.....	2,500	.....	.....	.....	337
Malden, Mass.	4,500	.....	\$750	.....	.....	1,750	.....	.....	1,800	1,800	1,550	1,700	2,500	.....	.....	2,500	.....	.....	.....	2,600	.....	.....	.....	600
Medford, Mass.	4,000	.....	600	.....	2,800	1,800	.....	.....	.....	.....	3,200	2,975	2,850	(*)	.....	2,500	.....	.....	3,100	3,600	.....	.....	1,600	
New Bedford, Mass.	5,500	3,600	(1)	.....	.....	1,800	\$1,670	.....	.....	.....	1,630	2,150	2,150	.....	.....	2,000	.....	.....	.....	2,250	.....	.....	.....	.....
Pittsfield, Mass.	5,500	.....	.....	.....	1,750	1,200	.....	.....	.....	.....	1,950	1,500	2,000	1,950	.....	2,100	.....	.....	.....	2,600	1,500	\$1,800	.....	300
Revere, Mass.	4,000	.....	.....	.....	800	2,000	.....	.....	.....	.....	1,700	1,700	1,700	2,200	.....	1,550	.....	.....	(1)	2,800	.....	.....	.....	1,200
Salem, Mass.	4,000	.....	(1)	.....	3,100	1,800	.....	.....	.....	.....	2,500	1,900	2,000	.....	.....	2,500	\$2,500	.....	3,000	2,300	.....	.....	.....	2,500
Somerville, Mass.	5,000	.....	.....	.....	.....	1,400	.....	.....	.....	.....	2,100	1,700	2,000	.....	.....	.....	.....	.....	3,000	1,900	.....	.....	.....	.....
Taunton, Mass.	4,300	.....	.....	.....	.....	1,800	.....	(*)	.....	.....	1,900	1,900	.....	.....	.....	.....	.....	.....	3,000	2,300	.....	.....	.....	.....
Battle Creek, Mich.	5,000	3,000	350	\$2,500	.....	1,800	.....	.....	.....	.....	1,800	1,600	.....	.....	.....	2,500	.....	.....	3,000	2,800	.....	.....	.....	.....
Calumet, Mich.	6,000	.....	.....	.....	.....	1,950	2,500	2,500	2,500	3,000	2,150	2,150	3,100	2,125	\$2,200	2,200	.....	.....	3,000	3,100	.....	.....	.....	.....
Flint, Mich.	6,500	3,000	350	4,200	4,200	1,600	2,400	2,500	.....	(*)	2,020	2,020	2,620	1,840	1,700	(*)	.....	.....	3,100	3,100	(11)	(*)	2,000	.....
Jackson, Mich.	5,500	3,420	1,500	.....	3,000	2,000	.....	.....	.....	.....	2,355	2,070	2,880	2,205	2,250	2,500	.....	.....	2,600	2,700	.....	.....	.....	.....
Kalamazoo, Mich.	5,500	.....	4,000	.....	3,000	2,000	.....	2,100	.....	.....	2,850	1,750	2,200	1,600	2,500	(*)	.....	.....	.....	2,000	500	1,750	.....	.....
Lansing, Mich.	6,000	2,500	.....	.....	2,400	1,100	1,650	(*)	.....	.....	1,700	1,700	3,200	1,800	1,700	(*)	.....	.....	(21)	2,800	(12)	(7)	1,200	.....
Muskegon, Mich.	5,000	2,400	.....	.....	1,900	1,900	1,700	(*)	.....	.....	1,750	1,500	2,500	1,600	.....	2,000	.....	.....	1,900	1,500	.....	.....	.....	.....
Port Huron, Mich.	4,800	.....	1,200	.....	.....	.....	.....	.....	.....	.....	1,800	1,800	2,400	1,900	1,600	2,400	.....	.....	3,300	1,600	.....	1,700	.....	.....
Saginaw, Mich.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
West side.	6,000	.....	.....	3,350	1,800	1,200	.....	(13)	2,500	.....	1,800	1,800	2,400	1,900	1,600	2,400	.....	.....	3,300	1,600	.....	1,700	.....	.....
East side.	5,000	3,500	3,400	(14)	.....	.....	.....	.....	2,400	.....	1,900	1,975	(*)	.....	.....	2,100	.....	1,800	(8)	2,300	.....	1,800	.....	.....
Duluth, Minn.	7,500	3,900	3,200	.....	3,400	1,775	.....	(16)	2,750	.....	2,450	2,800	2,900	2,100	2,360	2,400	2,100	.....	.....	.....	3,000	.....	.....	3,575
St. Joseph, Mo.	6,000	.....	4,000	(15)	4,000	1,500	.....	.....	2,000	2,160	2,000	2,000	.....	.....	.....	1,600	.....	.....	.....	1,650	.....	.....	.....	3,000
Springfield, Mo.	4,800	.....	4,500	.....	4,500	1,350	.....	.....	2,000	2,160	2,700	1,800	2,400	1,620	.....	1,800	.....	.....	.....	.....	.....	.....	.....	.....
Joplin, Mo.	5,200	.....	.....	.....	1,800	.....	.....	.....	2,300	.....	2,300	2,300	2,100	2,300	.....	2,800	.....	.....	.....	.....	.....	.....	.....	.....
Butte, Mont.	4,500	.....	2,400	.....	.....	2,100	.....	.....	.....	.....	2,400	2,400	2,600	2,450	.....	2,800	2,300	2,000	2,300	1,800	2,100	.....	.....	.....
Lincoln, Nebr.	5,500	3,500	4,000	.....	3,000	1,700	.....	2,200	.....	.....	2,600	2,000	2,800	2,500	.....	2,800	2,300	2,000	2,300	1,800	2,100	.....	.....	3,000

Manchester, N. H.	1,000	2,000	3,000	4,000	5,000	6,000	7,000	8,000	9,000	10,000	11,000	12,000	13,000	14,000	15,000	16,000	17,000	18,000	19,000	20,000	21,000	22,000	23,000	24,000	25,000	26,000	27,000	28,000	29,000	30,000	31,000	32,000	33,000	34,000	35,000	36,000	37,000	38,000	39,000	40,000	41,000	42,000	43,000	44,000	45,000	46,000	47,000	48,000	49,000	50,000	51,000	52,000	53,000	54,000	55,000	56,000	57,000	58,000	59,000	60,000	61,000	62,000	63,000	64,000	65,000	66,000	67,000	68,000	69,000	70,000	71,000	72,000	73,000	74,000	75,000	76,000	77,000	78,000	79,000	80,000	81,000	82,000	83,000	84,000	85,000	86,000	87,000	88,000	89,000	90,000	91,000	92,000	93,000	94,000	95,000	96,000	97,000	98,000	99,000	100,000	101,000	102,000	103,000	104,000	105,000	106,000	107,000	108,000	109,000	110,000	111,000	112,000	113,000	114,000	115,000	116,000	117,000	118,000	119,000	120,000	121,000	122,000	123,000	124,000	125,000	126,000	127,000	128,000	129,000	130,000	131,000	132,000	133,000	134,000	135,000	136,000	137,000	138,000	139,000	140,000	141,000	142,000	143,000	144,000	145,000	146,000	147,000	148,000	149,000	150,000	151,000	152,000	153,000	154,000	155,000	156,000	157,000	158,000	159,000	160,000	161,000	162,000	163,000	164,000	165,000	166,000	167,000	168,000	169,000	170,000	171,000	172,000	173,000	174,000	175,000	176,000	177,000	178,000	179,000	180,000	181,000	182,000	183,000	184,000	185,000	186,000	187,000	188,000	189,000	190,000	191,000	192,000	193,000	194,000	195,000	196,000	197,000	198,000	199,000	200,000	201,000	202,000	203,000	204,000	205,000	206,000	207,000	208,000	209,000	210,000	211,000	212,000	213,000	214,000	215,000	216,000	217,000	218,000	219,000	220,000	221,000	222,000	223,000	224,000	225,000	226,000	227,000	228,000	229,000	230,000	231,000	232,000	233,000	234,000	235,000	236,000	237,000	238,000	239,000	240,000	241,000	242,000	243,000	244,000	245,000	246,000	247,000	248,000	249,000	250,000	251,000	252,000	253,000	254,000	255,000	256,000	257,000	258,000	259,000	260,000	261,000	262,000	263,000	264,000	265,000	266,000	267,000	268,000	269,000	270,000	271,000	272,000	273,000	274,000	275,000	276,000	277,000	278,000	279,000	280,000	281,000	282,000	283,000	284,000	285,000	286,000	287,000	288,000	289,000	290,000	291,000	292,000	293,000	294,000	295,000	296,000	297,000	298,000	299,000	300,000	301,000	302,000	303,000	304,000	305,000	306,000	307,000	308,000	309,000	310,000	311,000	312,000	313,000	314,000	315,000	316,000	317,000	318,000	319,000	320,000	321,000	322,000	323,000	324,000	325,000	326,000	327,000	328,000	329,000	330,000	331,000	332,000	333,000	334,000	335,000	336,000	337,000	338,000	339,000	340,000	341,000	342,000	343,000	344,000	345,000	346,000	347,000	348,000	349,000	350,000	351,000	352,000	353,000	354,000	355,000	356,000	357,000	358,000	359,000	360,000	361,000	362,000	363,000	364,000	365,000	366,000	367,000	368,000	369,000	370,000	371,000	372,000	373,000	374,000	375,000	376,000	377,000	378,000	379,000	380,000	381,000	382,000	383,000	384,000	385,000	386,000	387,000	388,000	389,000	390,000	391,000	392,000	393,000	394,000	395,000	396,000	397,000	398,000	399,000	400,000	401,000	402,000	403,000	404,000	405,000	406,000	407,000	408,000	409,000	410,000	411,000	412,000	413,000	414,000	415,000	416,000	417,000	418,000	419,000	420,000	421,000	422,000	423,000	424,000	425,000	426,000	427,000	428,000	429,000	430,000	431,000	432,000	433,000	434,000	435,000	436,000	437,000	438,000	439,000	440,000	441,000	442,000	443,000	444,000	445,000	446,000	447,000	448,000	449,000	450,000	451,000	452,000	453,000	454,000	455,000	456,000	457,000	458,000	459,000	460,000	461,000	462,000	463,000	464,000	465,000	466,000	467,000	468,000	469,000	470,000	471,000	472,000	473,000	474,000	475,000	476,000	477,000	478,000	479,000	480,000	481,000	482,000	483,000	484,000	485,000	486,000	487,000	488,000	489,000	490,000	491,000	492,000	493,000	494,000	495,000	496,000	497,000	498,000	499,000	500,000	501,000	502,000	503,000	504,000	505,000	506,000	507,000	508,000	509,000	510,000	511,000	512,000	513,000	514,000	515,000	516,000	517,000	518,000	519,000	520,000	521,000	522,000	523,000	524,000	525,000	526,000	527,000	528,000	529,000	530,000	531,000	532,000	533,000	534,000	535,000	536,000	537,000	538,000	539,000	540,000	541,000	542,000	543,000	544,000	545,000	546,000	547,000	548,000	549,000	550,000	551,000	552,000	553,000	554,000	555,000	556,000	557,000	558,000	559,000	560,000	561,000	562,000	563,000	564,000	565,000	566,000	567,000	568,000	569,000	570,000	571,000	572,000	573,000	574,000	575,000	576,000	577,000	578,000	579,000	580,000	581,000	582,000	583,000	584,000	585,000	586,000	587,000	588,000	589,000	590,000	591,000	592,000	593,000	594,000	595,000	596,000	597,000	598,000	599,000	600,000	601,000	602,000	603,000	604,000	605,000	606,000	607,000	608,000	609,000	610,000	611,000	612,000	613,000	614,000	615,000	616,000	617,000	618,000	619,000	620,000	621,000	622,000	623,000	624,000	625,000	626,000	627,000	628,000	629,000	630,000	631,000	632,000	633,000	634,000	635,000	636,000	637,000	638,000	639,000	640,000	641,000	642,000	643,000	644,000	645,000	646,000	647,000	648,000	649,000	650,000	651,000	652,000	653,000	654,000	655,000	656,000	657,000	658,000	659,000	660,000	661,000	662,000	663,000	664,000	665,000	666,000	667,000	668,000	669,000	670,000	671,000	672,000	673,000	674,000	675,000	676,000	677,000	678,000	679,000	680,000	681,000	682,000	683,000	684,000	685,000	686,000	687,000	688,000	689,000	690,000	691,000	692,000	693,000	694,000	695,000	696,000	697,000	698,000	699,000	700,000	701,000	702,000	703,000	704,000	705,000	706,000	707,000	708,000	709,000	710,000	711,000	712,000	713,000	714,000	715,000	716,000	717,000	718,000	719,000	720,000	721,000	722,000	723,000	724,000	725,000	726,000	727,000	728,000	729,000	730,000	731,000	732,000	733,000	734,000	735,000	736,000	737,000	738,000	739,000	740,000	741,000	742,000	743,000	744,000	745,000	746,000	747,000	748,000	749,000	750,000	751,000	752,000	753,000	754,000	755,000	756,000	757,000	758,000	759,000	760,000	761,000	762,000	763,000	764,000	765,000	766,000	767,000	768,000	769,000	770,000	771,000	772,000	773,000	774,000	775,000	776,000	777,000	778,000	779,000	780,000	781,000	782,000	783,000	784,000	785,000	786,000	787,000	788,000	789,000	790,000	791,000	792,000	793,000	794,000	795,000	796,000	797,000	798,000	799,000	800,000	801,000	802,000	803,000	804,000	805,000	806,000	807,000	808,000	809,000	810,000	811,000	812,000	813,000	814,000	815,000	816,000	817,000	818,000	819,000	820,000	821,000	822,000	823,000	824,000	825,000	826,000	827,000	828,000	829,000	830,000	831,000	832,000	833,000	834,000	835,000	836,000	837,000	838,000	839,000	840,000	841,000	842,000	843,000	844,000	845,000	846,000	847,000	848,000	849,000	850,000	851,000	852,000	853,000	854,000	855,000	856,000	857,000	858,000	859,000	860,000	861,000	862,000	863,000	864,000	865,000	866,000	867,000	868,000	869,000	870,000	871,000	872,000	873,000	874,000	875,000	876,000	877,000	878,000	879,000	880,000	881,000	882,000	883,000	884,000	885,000	886,000	887,000	888,000	889,000	890,000	891,000	892,000	893,000	894,000	895,000	896,000	897,000	898,000	899,000	900,000	901,000	902,000	903,000	904,000	905,000	906,000	907,000	908,000	909,000	910,000	911,000	912,000	913,000	914,000	915,000	916,000	917,000	918,000	919,000	920,000	921,000	922,000	923,000	924,000	925,000	926,000	927,000	928,000	929,000	930,000	931,000	932,000	933,000	934,000	935,000	936,000	937,000	938,000	939,000	940,000	941,000	942,000	943,000	944,000	945,000	946,000	947,000	948,000	949,000	950,000	951,000	952,000	953,000	954,000	955,000	956,000	957,000	958,000	959,000	960,000	961,000	962,000	963,000	964,000	965,000	966,000	967,000	968,000	969,000	970,000	971,000	972,000	973,000	974,000	975,000	976,000	977,000	978,000	979,000	980,000	981,000	982,000	983,000	984,000	985,000	986,000	987,000	988,000	989,000	990,000	991,000	992,000	993,000	994,000	995,000	996,000	997,000	998,000	999,000	1,000,000	1,001,000	1,002,000	1,003,000	1,004,000	1,005,000	1,006,000	1,007,000	1,008,000	1,009,000	1,010,000	1,011,000	1,012,000	1,013,000	1,014,000	1,015,000	1,016,000	1,017,000	1,018,000	1,019,000	1,020,000	1,021,000	1,022,000	1,023,000	1,024,000	1,025,000	1,026,000	1,027,000	1,028,000	1,029,000	1,030,000	1,031,000	1,032,000	1,033,000	1,034,000
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III. Quantities of food

12

1

3

ii

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1

10

1

owner, and superintendent of buildings, one person.

Results:

1

[illegible]

of schools.

100

nois.

●

2. Vocational department combined, \$2,400; elementary department, \$1,750.

Cities of 25,000 to 49,999 population.

Officers.	Minimum.	Lower quartile.	Median.	Upper quartile.	Maximum.
Superintendent of schools.....	\$2, 500	\$4, 200	\$5, 000	\$5, 500	\$7, 100
Assistant superintendent.....	1, 200	2, 400	3, 050	3, 600	5, 500
Secretary to school board.....	100	1, 150	2, 000	2, 800	4, 500
Business manager.....	2, 100	2, 325	2, 500	3, 325	3, 600
Superintendent of buildings.....	800	1, 800	2, 000	2, 500	4, 500
Chief attendance officer.....	500	1, 200	1, 400	1, 700	2, 500
Medical inspector.....	300	850	1, 200	2, 000	3, 000
Supervisors:					
Kindergarten.....	900	1, 250	1, 635	1, 850	2, 400
Primary.....	1, 500	1, 900	2, 275	2, 500	3, 000
Intermediate and grammar.....	1, 400	1, 700	2, 200	2, 700	3, 100
Music.....	1, 215	1, 725	1, 925	2, 300	3, 600
Art.....	1, 000	1, 650	1, 900	2, 150	3, 550
Manual training.....	1, 500	2, 000	2, 250	2, 600	3, 600
Home economics.....	1, 300	1, 650	1, 850	2, 200	4, 635
Play.....	1, 200	1, 600	1, 700	1, 700	3, 000
Physical education.....	1, 350	1, 800	2, 100	2, 500	3, 900
Educational tests.....	1, 500	1, 500	1, 800	2, 400	2, 500
Vocational education.....	1, 500	2, 200	3, 000	3, 400	4, 400
Continuation schools.....	1, 500	1, 700	2, 160	2, 650	3, 400
Evening schools.....	300	400	1, 500	2, 100	3, 400
Special classes.....	1, 500	1, 600	1, 800	2, 000	2, 500

Cities of 50,000 to 100,000 population.

Officers.	Minimum.	Lower quartile.	Median.	Upper quartile.	Maximum.
Superintendent of schools.....	\$3, 450	\$5, 000	\$6, 000	\$6, 250	\$10, 000
Assistant superintendent.....	2, 000	2, 670	3, 450	4, 000	5, 500
Secretary of school board.....	350	2, 100	3, 000	3, 600	5, 000
Business manager.....	2, 000	2, 200	3, 000	3, 800	4, 200
Superintendent of buildings.....	1, 200	2, 350	2, 780	3, 000	4, 200
Chief attendance officer.....	1, 000	1, 400	1, 700	2, 000	2, 900
Medical inspector.....	300	1, 000	1, 800	2, 000	4, 382
Supervisors:					
Kindergarten.....	1, 250	2, 150	2, 285	2, 500	2, 820
Kindergarten-primary.....	1, 400	2, 250	2, 500	2, 900	3, 300
Primary grades.....	1, 650	1, 860	2, 250	2, 700	3, 300
Intermediate and grammar.....	1, 800	2, 300	2, 500	3, 000	3, 300
Music.....	1, 440	2, 100	2, 400	2, 600	3, 600
Art.....	1, 500	2, 000	2, 300	2, 600	3, 600
Manual training.....	1, 000	2, 400	2, 700	3, 000	4, 000
Home economics.....	1, 305	2, 000	2, 200	2, 600	3, 280
Play.....	900	2, 268	2, 550	3, 200	4, 250
Physical education.....	1, 200	1, 800	2, 500	2, 800	5, 000
Education and psychological tests.....	1, 000	2, 100	2, 350	2, 800	3, 380
Vocational education.....	1, 320	2, 600	3, 000	3, 600	4, 800
Continuation schools.....	1, 090	2, 000	2, 550	3, 000	4, 060
Evening schools.....	240	540	1, 440	2, 700	3, 000
Special classes.....	1, 200	1, 600	1, 850	2, 200	2, 650

Salaries in detail for cities of over 100,000 population.

AKRON, OHIO.		AKRON, OHIO—Continued.	
Superintendent of schools.....	\$9, 000	Supervisor of—	
Superintendent emeritus.....	8, 000	Vocal music.....	\$2, 600
Assistant superintendent.....	5, 500	Instrumental music.....	2, 600
Business manager.....	5, 500	Art.....	2, 600
Superintendent of maintenance.....	3, 600	Physical education.....	2, 600
Director of—		Two superintendent's secretaries, each.....	1, 920
Research.....	3, 600	Pay roll clerk.....	1, 800
Trade extension.....	3, 200	Clerk of sinking fund.....	2, 040
Americanization.....	3, 000	Stock clerk.....	1, 920
Chief architect.....	4, 000	Stenographer.....	1, 500
Head of attendance.....	2, 000	Typist.....	1, 080

Salaries in detail for cities of over 100,000 population—Continued.

AKRON, OHIO—continued.

Warehouse clerk.....	\$1,500
Assistant superintendent's secretary.....	1,200
Clerk in—	
Maintenance department.....	1,500
Attendance department.....	1,500
Americanization department.....	1,620
Bureau of research.....	1,080
Architect's office.....	1,200

ALBANY, N. Y.

Superintendent of schools.....	6,000
Superintendent of school buildings.....	3,050
Clerk of board.....	2,500
Principal at large.....	3,200
Requisition clerk.....	1,625
Three attendance officers, each.....	1,550
Supervisor of—	
Drawing.....	3,200
Music.....	3,050
Special classes.....	3,200
Kindergarten.....	2,500
Handwork.....	2,500
Primary grades.....	2,500
English.....	2,500
Penmanship.....	2,500
Americanization.....	2,000
Director of—	
Physical education.....	3,400
Vocational education.....	3,400
Assistant supervisor of—	
Special classes.....	2,000
Vocational education.....	2,000
Physical education.....	1,900
Division of library, textbooks and records:	
Head of division.....	2,200
One assistant.....	1,800
Three assistants, each.....	1,475
One assistant.....	1,400
One assistant.....	1,175
Two clerks (\$3.50 a day), each about.....	1,092
Teacher-clerk, physical education dept.....	1,100

ATLANTA, GA.

Superintendent.....	5,000
Asst. superintendent and business manager.....	3,600
Supervisor (first year).....	1,736
Supervisor (second year).....	1,986
Supervisor (third year).....	2,186
Assistant supervisor (first year).....	1,536
Assistant supervisor (second year).....	1,586
Assistant supervisor (third year).....	1,636
Compulsory attendance officer.....	1,080
Superintendent of repairs.....	2,400
Stenographers, each.....	1,200
Clerks, each.....	1,200

BALTIMORE, MD.

General administration:	
Departmental secretary.....	2,750
Principal account clerk.....	2,100
Senior stenographer.....	1,900
Junior typist.....	1,100
Supervisor of school buildings.....	2,300
Janitor.....	1,000
Stenographer.....	1,200

BALTIMORE, MD.—continued.

Administrative:	
Superintendent.....	\$8,000
First assistant superintendent.....	6,000
Assistant superintendent.....	6,000
Assistant superintendent.....	5,500
Senior clerk.....	1,500
Junior clerk.....	1,100
Senior stenographer.....	1,300
Three junior clerks, each.....	1,200
Telephone clerk and typist.....	900
Statistician.....	1,800
Supervisor of—	
Manual training and teachers.....	2,900
Music.....	2,500
Drawing.....	2,000
Sewing.....	2,000
Physical culture.....	2,000
Kindergarten-primary.....	2,100
Chief attendance officer.....	1,500
Fourteen assistant attendance officers, each.....	1,000
Junior typist.....	1,200
Four supervisors of elementary grades, each.....	2,000
One assistant supervisor of music.....	1,700
Three assistant supervisors of music, each.....	1,550
Two assistant supervisors of music, each.....	1,450
Four assistant supervisors of music, each.....	1,350
Two assistant attendance officers, each.....	950
Substitute attendance officer.....	500

BIRMINGHAM, ALA.

Superintendent of public schools.....	7,500
Assistant superintendent.....	5,000
Secretary, board of education.....	2,700
Auditor and statistician.....	1,500
Bookkeeper.....	1,600
Stenographer to secretary.....	1,440
Stenographer to supt.....	1,500
Assistant stenographer and filing clerk.....	1,200
Supervisor, attendance department.....	2,000
Assistant supervisor, attendance department.....	1,200
Supervisor of music.....	2,500
Assistant supervisor of music.....	1,500
Supervisor of—	
Drawing.....	2,200
Home economics.....	2,500
Manual arts.....	2,400
Physical training.....	2,700
Penmanship.....	2,000
Primary work.....	2,200
Parental school.....	2,100
Director, vocational department.....	3,400
Medical inspector.....	2,700
Superintendent of buildings.....	2,400
Superintendent, warehouse and repair shop.....	1,500

BOSTON, MASS.

Superintendent.....	10,000
Thirty assistants to superintendent.....	28,572

*Salaries in detail for cities of over 100,000 population—Continued.***BOSTON, MASS.—continued.**

Five assistant superintendents.....	\$27,480
Secretary.....	4,740
Assistant secretary.....	2,700
Seven assistants to secretary.....	7,908
Business agent.....	4,740
Chief accountant, 22 assistants and 2 chauffeurs to business agent.....	34,392
Schoolhouse custodian.....	3,000
Clerk to schoolhouse custodian.....	1,116
City treasurer, custodian of the retirement fund.....	1,500
Telephone operator.....	720
Substitute telephone operator.....	300
Officers, clerks, assistants, and stenographers.....	132,309
Chief attendance officer.....	2,880
Twenty-four attendance officers.....	39,278
Director of—	
Department of manual arts.....	3,540
Dept. of household science and arts....	2,820
Department of music.....	3,540
Evening schools.....	3,697
Kindergartens.....	2,740
Special classes.....	2,260
Salesmanship.....	2,100
Penmanship.....	2,004
Vocational guidance.....	2,292
Chief examiner, educational investigation and measurement.....	3,510
Director of medical inspection.....	3,000
Supervising nurse.....	1,620
Director of physical training.....	3,340
Director of extended use of public schools..	3,000

BRIDGEPORT, CONN.

Superintendent.....	6,000
Assistant superintendent.....	4,000
Second assistant superintendent.....	4,000
Superintendent's secretary.....	1,600
Assistant secretary of board.....	2,600
Agent of board.....	2,400
Purchasing agent.....	1,400
Bookkeeper.....	1,450
Pay-roll clerk.....	1,300
Stenographer.....	960
Stenographer.....	800
Stenographer.....	900
Switchboard operator.....	800
High-school principal's secretary.....	1,500
Stenographer for high school.....	700
Stenographer for high school.....	650
Supervisor of—	
Art.....	2,300
Art.....	1,970
Penmanship.....	1,950
Music.....	2,500
Music.....	2,300
Physical education.....	2,60
Grades.....	2,900

BUFFALO, N. Y.

Superintendent.....	10,000
Three deputy superintendents, each.....	4,800
Secretary to superintendent.....	3,000

BUFFALO, N. Y.—continued.

General supervisor.....	\$3,200
Secretary, board of education.....	2,000
Superintendent, janitorial service.....	2,500
Supply clerk.....	1,800
Chief clerk.....	2,000
Three clerks, each.....	1,200
Clerk (part-time school).....	1,500
Manager, stenographic department.....	1,900
Stenographer to superintendent.....	1,700
Stenographer to board of education.....	1,500
Two stenographer clerks, each.....	1,500
Two stenographer clerks, each.....	1,260
Storekeeper.....	1,500
Assistant storekeeper.....	1,200
Chauffeur.....	1,200
Three helpers in storeroom, each.....	800
Switchboard operator.....	1,100
Messenger.....	520
Chief attendance officer.....	1,800
Thirteen attendance officers, each.....	1,600
Two attendance officers, each.....	1,000
Inspector, trades law.....	1,700
Psychological examiner.....	1,600

CAMBRIDGE, MASS.

Superintendent.....	6,000
Business agent.....	3,000
Superintendent of buildings and grounds..	2,500
Secretary to school committee, per week..	22.90
Assistant superintendent, director of continuation and evening schools.....	4,220
Supervisor of—	
Primary schools.....	2,460
Kindergartens and special classes.....	2,460
Director of art education.....	3,220
Assistant director of art education.....	1,596
Director of music.....	3,220
Two assistants, each.....	1,596
Director of physical education.....	2,460
Assistant.....	1,824
Secretary to superintendent, per week.....	26.50
Clerk, per week.....	26.50
Temporary clerk, certificate division, per week.....	15.00
Seven attendance officers, each.....	1,800
Two clerks, each per week.....	26.50
One clerk, per week.....	21.00
Porter.....	1,200

CHICAGO, ILL.

Superintendent of schools.....	12,000
First assistant.....	8,100
Three assistants, each.....	7,200
Secretary to board of examiners.....	7,200
Examiner.....	6,000
Ten district superintendents, each.....	6,000
Supervisor of—	
Music.....	3,750
Art.....	3,750
Blind.....	3,500
Household arts.....	4,500
Technical work in high schools.....	4,300
Commercial work in high schools.....	4,300
Physical education in elementary schools.....	4,500

Salaries in detail for cities of over 100,000 population—Continued.

CHICAGO, ILL.—continued.

Director of—	
School extension.....	\$5,000
Special schools.....	5,000
Elementary manual training.....	5,000
Child study.....	4,900
Vocational guidance.....	5,000
Chief compulsory officer.....	5,300
Principal continuation school.....	6,120
Business manager.....	10,000
Architect.....	8,000
One hundred and seventy-four clerks from \$900 to \$3,000.	

CINCINNATI, OHIO.¹

Superintendent.....	10,000
Assistant superintendent.....	5,000
Assistant superintendent.....	3,500
Director of—	
Kindergartens.....	3,000
Vocational education.....	3,100
Continuation schools.....	3,100
Household arts.....	3,200
Industrial arts.....	3,500
Art.....	3,600
Music.....	3,600
Penmanship.....	3,600
Physical education.....	3,600
Civic and vocational league.....	2,200
Executive secretary.....	1,500
Superintendent's secretary.....	1,500
Stenographer.....	1,200
Two stenographers, each.....	1,000
Stenographer.....	900
Office attendant and telephone operator...	900
Assistant director in charge of attendance department.....	1,500
Court attendance officer.....	1,500
Attendance officer.....	1,800
Two attendance officers, each.....	1,600
Attendance officer.....	1,500
Attendance officer.....	1,200
Attendance officer.....	1,300
Stenographer.....	900
Assistant director of vocation bureau.....	2,200
Two psychological laboratory assistants, each.....	1,400
Two psychological laboratory assistants, each.....	1,200
Social investigator.....	1,300
Placement secretary.....	1,900
Employment certificate assistant.....	1,500
Placement assistant.....	1,500
Placement assistant.....	1,400
Two stenographers, each.....	1,200
Stenographer.....	780
Clerk.....	3,500
Deputy clerk.....	2,200
Stenographer.....	1,200
Stenographer.....	1,100
Business manager.....	5,000
Clerk.....	3,500

CINCINNATI, OHIO—continued.

General clerk.....	\$1,600
Clerk-stenographer.....	1,250
General clerk-stenographer.....	1,350
Stenographer.....	950
Clerk-typist.....	950
Stores bookkeeper.....	1,400
Assistant stores bookkeeper.....	1,200
Custodian.....	1,500
Assistant custodian.....	1,400
Visiting engineer.....	2,700
Assistant stores keeper.....	1,300
Assistant stores keeper.....	1,200
Telephone operator.....	800

CLEVELAND, OHIO.

Superintendent of schools.....	10,000
Three assistant superintendents, each.....	6,500
Two assistant superintendents, each.....	5,500
One assistant superintendent.....	5,000
Director of—	
French and Spanish.....	4,000
English.....	4,250
Mathematics.....	
Secretary to superintendent.....	4,000
Supervisor of substitute teachers.....	2,000
Supervisor of appointments.....	2,750
Two assistant supervisors of appointments, each.....	1,600
Director of school housing.....	4,500
Assistant director of school housing.....	3,500
Assistant director of school housing.....	2,750
Director of reference and research.....	4,500
Assistant director of reference and research.....	2,400
Assistant director of reference and research.....	2,200
Supervisor of evening schools.....	3,850
Assistant supervisor of evening schools....	2,750
Supervisor of community centers.....	3,300
Assistant supervisor of community centers.....	2,750
Supervisor of school gardens.....	3,300
Supervisor of medical inspection.....	3,300
Assistant supervisor of medical inspection.....	2,500
Twenty-three school doctors, each.....	1,282
Assistant supervisor of school nurses.....	2,500
Two school nurses, each.....	1,440
Three school nurses, each.....	1,670
Two school nurses, each.....	1,610
Three school nurses, each.....	1,320
One school nurse.....	1,382
Five school nurses, each.....	1,550
Seven school nurses, each.....	1,730
One school nurse.....	1,370
Three school nurses, each.....	1,490
Three school nurses, each.....	1,200
One school nurse.....	1,210
Assistant supervisor of dental clinics.....	2,000
Nine school dentists, each.....	1,425
Four school dentists, each.....	2,850
Seven dental nurses, each.....	760
One dental nurse.....	950
Assistant supervisor, orthopedics.....	2,479
Director of publications.....	4,000

¹ Chief medical inspector, in charge of medical, dental, and nursing service in the schools, is paid by board of health.

Salaries in detail for cities of over 100,000 population—Continued.

CLEVELAND, OHIO—continued.

Assistant director of publications.....	\$1,600
Director of attendance, census, and vocational guidance.....	4,000
Assistant director of attendance, census, and vocational guidance.....	3,000
Assistant director of attendance, census, and vocational guidance.....	2,100
One attendance officer.....	3,035
Two attendance officers, each.....	2,500
Three attendance officers, each.....	2,000
Three attendance officers, each.....	1,900
Two attendance officers, each.....	1,700
Twenty attendance officers, each.....	1,500
General supervisor, elementary schools.....	3,680
General supervisor, elementary schools.....	3,560
General supervisor, elementary schools.....	3,200
General supervisor, elementary schools.....	3,060
General supervisor, elementary schools.....	3,000
Supervisor of music.....	3,680
Four assistant supervisors of music, each..	2,500
Supervisor of chorus music.....	3,000
Supervisor of art.....	3,560
Five assistant supervisors of art, each.....	2,500
One assistant supervisor of art.....	1,350
Supervisor of writing.....	3,560
Three assistant supervisors of writing, each..	2,500
Supervisor of kindergartens.....	3,000
Supervisor of physical training.....	3,560
Three assistant supervisors of physical training, each.....	2,705
Supervisor exceptional classes.....	3,000
Assistant supervisor exceptional classes.....	2,045
Assistant supervisor exceptional classes.....	1,200
Assistant supervisor psychological clinics..	2,675
Assistant supervisor psychological clinics..	1,800
Assistant supervisor psychological clinics..	1,350
Assistant supervisor psychological clinics..	1,320
Assistant supervisor speech defects.....	2,170
Supervisor of manual training.....	3,680
Supervisor of home economics.....	3,560
Assistant supervisor of home economics....	1,800
Supervisor of lunch rooms.....	3,020
Supervisor of blind classes ($\frac{1}{2}$ time).....	3,680
Assistant supervisor of blind classes ($\frac{1}{2}$ time)	2,500
Director of board of examiners.....	3,500
Assistant secretary to Supt.....	2,400
Clerk to superintendent.....	2,640
Stenographer.....	1,600
Thirteen stenographers, each.....	1,425
Nine stenographers, each.....	1,350
Two clerks, each.....	1,680
One clerk.....	1,470
Ten clerks, each.....	1,300
One clerk.....	960
One Braille stereotyper.....	1,656
Two Braille stereotypers, each.....	1,488

COLUMBUS, OHIO.

Executive department:	
Superintendent.....	7,500
Assistant superintendent.....	4,500
Assistant superintendant.....	4,000
Secretary.....	1,300

COLUMBUS, OHIO—continued.

Executive department—Continued.	
Clerk.....	\$1,200
Clerk.....	1,060
Business department:	
Clerk (ex officio treasurer).....	4,000
Assistant clerk.....	2,500
Assistant clerk.....	2,000
Assistant clerk.....	1,560
Stenographer.....	1,060
Storekeeper.....	1,000
Assistant storekeeper.....	1,560
Architect's office:	
Architect.....	2,880
Two draftsmen, each.....	3,000
Two draftsmen, each.....	2,400
One draftsman.....	2,700
Building supervisor.....	3,000
Building supervisor.....	2,400
Electrical engineer.....	2,400
Heating engineer.....	3,000
Building and repair department:	
Superintendent of buildings.....	3,000
Foreman painter.....	2,160
Shopman.....	1,704
Electrician.....	1,704
Three carpenters, each.....	1,704
Public school library:	
Librarian.....	2,280
Two assistant librarians, each.....	1,000
Two assistant librarians, each.....	1,200
Three high-school librarians, each.....	1,000
Two high-school librarians, each.....	1,500
Attendance department:	
One attendance officer.....	1,560
One attendance officer.....	1,800
Two attendance officers, each.....	1,380
Board of examiners:	
Three examiners, each.....	200
Supervisors:	
Manual training.....	2,260
Assistant supervisor, home economics..	1,875
Three assistant supervisors, of music, each.....	1,875
Assistant supervisor, physical education.....	1,875
Americanization.....	2,187
Art.....	2,025
Assistant supervisor, art.....	2,125
Kindergarten.....	2,125
Nature study.....	2,187
Journalism.....	2,086
School physician.....	3,000
Two nurses, each.....	1,300
Three nurses, each.....	1,100

DALLAS, TEX.

Superintendent of schools.....	7,200
Assistant superintendent of schools.....	6,000
Private secretary.....	2,000
Supervisor of—	
High-school instruction.....	5,000
Intermediate grades.....	3,000
Primary work.....	2,000

Salaries in detail for cities of over 100,000 population—Continued.

DALLAS, TEX.—continued.

Supervisor of—Continued.	
Music.....	\$3,000
Drawing and writing.....	3,000
Assistant supervisor of music.....	2,000
Assistant supervisor of drawing and writing.....	2,000
Supervisor of physical training, primary....	2,000
Stenographer.....	1,200
Statistical clerk.....	1,200
Business administration:	
Secretary of board of education (business manager).....	4,800
Purchasing agent.....	3,000
Supervisor of buildings.....	3,000
Teller.....	1,800
Bookkeeper.....	1,800
Stenographer.....	1,500
Clerk.....	900

DAYTON, OHIO.

Supervisor of—	
Grade schools (part-time, also principal of one of the elementary schools).....	750
Physical training.....	2,050
Kindergartens.....	1,750
Drawing and industrial work.....	2,050
Assistant.....	1,550
Expression.....	2,050
Penmanship.....	2,050
Vocal music.....	2,550
Two assistants, each.....	1,400
Orchestras.....	2,550
Manual training.....	2,550
Home economics.....	2,550
Truant officer.....	1,920
Truant officer (also has charge of compulsory continuation school).....	2,050
Health Inspector ^a	
Business manager ^a	
Clerk ^a	4,000
Assistant clerk.....	1,800
Stenographer.....	1,200
Superintendent of construction (also has office of his own).....	5,000
Clerk.....	1,430
Superintendent of buildings.....	2,520
Stock clerk and purchasing agent.....	2,200
Two clerks (stock room), each.....	1,200
Stenographer (stock room).....	1,080
Stenographer (stock room).....	1,200
Secretary to superintendent of instruction.....	1,800
Assistant office of superintendent of instruction.....	1,200

DENVER, COLO.

Superintendent's office:	
Superintendent.....	8,000
Assistant superintendent.....	5,000
Assistant to superintendent.....	4,100
Secretary in charge of supply teachers.....	2,100

DENVER, COLO.—continued.

Superintendent's office—Continued.	
Chief clerk.....	\$2,400
Clerk.....	1,800
Three clerks, each.....	1,600
Clerk.....	1,500
Clerk.....	1,040
Clerk.....	780
Telephone:	
Operator.....	1,020
Operator.....	900
Business office:	
Chief engineer.....	5,000
Chief clerk.....	2,400
Clerk.....	1,900
Clerk.....	1,500
Clerk.....	1,300
Clerk.....	1,180
Two clerks, each.....	1,100
Storehouse:	
Storekeeper.....	2,000
Clerk.....	1,100
Clerk, part-time.....	300
Clerk.....	1,200
Expressman.....	2,200
Departments:	
Director, measurements and standards.....	3,240
Special teacher, speech.....	1,900
Special teacher, speech.....	1,740
Special teacher, special schools.....	1,840
Director, penmanship.....	2,640
Special teacher, penmanship.....	1,900
Girls' handicraft director.....	2,540
Special teacher, girls' handicraft.....	1,900
Director of art education.....	2,500
Special teacher, art education.....	1,440
Special teacher, art education.....	1,960
Director of—	
City gardens.....	2,440
Manual training.....	2,940
Physical education.....	2,540
Lunch rooms.....	2,540
Domestic science.....	2,740
Cadet corps.....	1,970
Two special teachers, cadet corps, each.....	1,400
Director of music.....	3,500
Special teacher, music.....	1,840
Two special teachers, music, each.....	1,440
Special teacher, music.....	1,300
Special teacher, music.....	1,200
Director of playgrounds.....	1,840
Special teacher, playgrounds.....	1,500
Director of attendance.....	2,400
Four attendance officers, each.....	1,400

DES MOINES, IOWA.

Superintendent of schools.....	7,500
Director of—	
Elementary education.....	4,000
Kindergartens.....	2,412

^a This work is now under the charge of the city department of health. The board pays \$100 per month for the services of five district physicians, part-time.

^a The board has no business manager. The financial matters are taken care of by the clerk, who is also treasurer of the board. Clerk of board of education, construction department, stock clerk, and purchasing department are responsible directly to board of education.

*Salaries in detail for cities of over 100,000 population—Continued.***DES MOINES, IOWA—Continued.****Director of—Continued.**

Industrial education.....	\$3,400
Business education.....	3,400
Extension activities and Americaniza- tion work.....	2,100
Research.....	2,500
Exceptional children.....	2,000

Supervisor of—

Primary grades.....	3,000
Home economics.....	2,340
Art.....	2,412
Assistant.....	2,000
Music.....	2,700
Two assistants, each.....	1,540
Penmanship.....	2,167
Director, department of health (half time).....	1,758
School dentist (half time).....	1,758
Oral hygienist.....	1,760
Clerk.....	1,089
Supervisor, physical education.....	2,527
Supervisor, school nurses.....	2,500
Secretary to superintendent.....	2,400
Clerk.....	1,380
Four stenographers from \$960 to \$1,500.....	
Information clerk.....	960
Director, attendance and employment.....	3,500
Two attendance officers, each.....	2,400
Chief clerk.....	1,400
Assistant clerk.....	1,200
Secretary and business manager.....	4,200
Bookkeeper.....	2,000
Two clerks from \$1,200 to \$1,380.....	
Stenographer.....	1,320
Superintendent, buildings and grounds.....	3,500
Clerk.....	1,500

DETROIT, MICH.

Superintendent.....	9,000
Deputy superintendent.....	7,680
Two assistant superintendents, each.....	6,600
Director of—	
Ins. normal tr. and research.....	6,000
Education expenditures.....	6,000
Statistics.....	5,100
Special education.....	3,600
Intermediate school.....	4,000
Assistant director of—	
Industrial art.....	5,000
Physical education.....	3,000
Educational research.....	4,800
Inspector, teachers.....	4,500
Asst. supr., statistics and reference.....	3,000
Asst. supr., educational research.....	3,000
Supervisor of—	
Arithmetic.....	4,000
Comp. education.....	4,000
Music.....	4,000
Elementary music.....	3,500
Art.....	4,000
Penmanship.....	4,000
Geography.....	4,000
English.....	4,000
Kindergarten primary grades.....	4,000
Visual education.....	3,600
Special education.....	4,800

DETROIT, MICH—Continued.**Supervisor of—Continued.**

Ungraded classes.....	\$4,000
Girls' activities.....	4,000
Mech. drawing and man. tr.....	4,000
Domestic arts.....	4,000
Domestic science.....	4,000
Industrial training.....	4,000
Phy. education high sch.....	4,000
Boys' athletics.....	4,000
Seven asst. supr. physical ed., each.....	2,500
Two asst. supr. music, each.....	2,500
Four asst. supr. art, each.....	2,500
Two asst. supr. penmanship, each.....	2,500
Four asst. supr. English, each.....	2,500
Three asst. supr. kindergarten, each.....	2,500
Four asst. supr. special ed., each.....	2,500
Two dist. attendance officers, each.....	3,000
Two dist. attendance officers, each.....	2,500
Attendance officer.....	1,700
Business manager.....	5,199
Two clerks (chief clerks), each.....	3,000
One clerk (chief clerk).....	2,400
One clerk (chief clerk).....	1,920
Two clerks (chief clerks), each.....	1,680
One clerk.....	2,000
One clerk.....	2,100
Two clerks, each.....	1,740
One clerk.....	1,620
Seven clerks, each.....	1,560
Seven clerks, each.....	1,500
Five clerks, each.....	1,440
One clerk.....	1,380
Three clerks, each.....	1,320
Two clerks, each.....	1,200
Two clerks, each.....	1,080
One clerk.....	1,020
One stenographer.....	2,040
Two stenographers, each.....	1,800
Five stenographers, each.....	1,680
Two stenographers, each.....	1,560
Two stenographers, each.....	1,440
Two stenographers, each.....	1,320

FALL RIVER, MASS.

Superintendent.....	5,000
Assistant superintendent.....	3,400
Primary supervisor.....	2,160
Primary supervisor.....	2,280
Supervisor of—	
Household arts.....	2,120
Drawing.....	2,880
Assistant.....	2,000
Reading.....	2,400
Physical training.....	2,400
Assistant.....	1,520
Music.....	2,880
Secretary.....	2,200
Seven attendance officers, each.....	1,800
Supply clerk.....	1,900
Stenographer.....	1,600
Stenographer.....	1,100
Stenographer.....	900
Clerk.....	1,200
Clerk.....	1,100

Salaries in detail for cities of over 100,000 population—Continued.

HOUSTON, TEX.

Superintendent.....	\$6,000
Superintendent of hygiene.....	4,200
Business representative, school board.....	3,600
Superintendent of—	
Music.....	2,400
Intermediate grades.....	2,700
Primary grades.....	2,700
Penmanship.....	2,500
Art.....	2,600
Manual training.....	2,700
Domestic science.....	2,100
Secretary to superintendent.....	1,820
Secretary to business representative.....	1,820
Secretary to manual training director.....	1,680
Assistant in superintendent's office.....	870
Manager of free textbooks.....	2,180
Four nurses, each.....	1,200
(Ten other nurses employed, but salary paid by the city or by private organizations.)	

INDIANAPOLIS, IND.

Superintendent of schools.....	8,000
Assistant to superintendent.....	4,500
Director, dept. of ref. and research.....	3,600
Director, vocational education.....	5,000
High school principal.....	4,300
High school principal.....	4,500
High school principal.....	4,800
Principal, normal training school.....	3,200
Five district superintendents, each.....	3,600
One district superintendent.....	4,000
One district superintendent.....	3,000
Director of—	
Manual training.....	3,500
Music.....	3,500
Physical educa. and school hygiene....	3,800
Art instruction.....	3,500
School lunches.....	3,000
Handwriting.....	3,000
Supervisor of sewing.....	2,300
Supervisor of cooking.....	2,200
Director of attendance department.....	3,000
Four attendance officers, each.....	1,500
One attendance officer.....	1,400
Two attendance officers, each.....	1,000
One attendance officer.....	1,760
One attendance officer.....	1,870
Director, business department.....	6,000
Assistant, business director.....	5,000
Superintendent of supply.....	2,400
Superintendent, buildings and grounds....	3,500
Attorney.....	2,500
Deputy auditor.....	2,100
County treasurer—by city.....	1,500
Secretary to supt.....	1,800
Two stenographers, each.....	1,300
One stenographer.....	1,100
One clerk to superintendent.....	1,800
One clerk.....	1,400
One clerk.....	1,300

JERSEY CITY, N. J.

Superintendent of schools.....	\$10,500
Assistant superintendents of schools.....	5,400
Secretary.....	3,400
Clerk.....	2,200
Clerk.....	1,936
Clerk.....	1,888
Supervisor of methods in primary dept....	3,900
Supervisor of methods in grammar dept....	3,500
Assist. supt., grammar and primary dept..	3,100
Director of vocal music.....	3,800
Assistant directors of vocal music.....	3,100
Supervisor of—	
Classes for pupils mentally defective...	2,300
Drawing.....	4,100
Physical training.....	3,800
Instruction of pupils defective in speech.....	2,600
Director, manual tr. and domestic sc.....	4,100
Chief attendance officer.....	2,800
Assistant attendance officer.....	2,500
Sixteen assistant attendance officers, each .	1,800
Three assistant attendance officers, each...	1,600
Chief clerk attendance department.....	1,800
Two clerks, each.....	1,500
Director, medical inspection.....	2,500
Fourteen assistant medical inspectors, each.	900
Fourteen nurses, medical department, each .	1,320
Woman medical inspector.....	1,200
Medical department clerk.....	2,000
Medical department clerk.....	1,500
Director of dental hygiene.....	2,240
Five dentists, each.....	1,200
Six dental nurses, each.....	1,320
Dental department clerk.....	1,500
Secretary of board of education.....	4,250
Clerk, office of secretary.....	2,000
Clerk, office of secretary.....	1,800
Four clerks, office of secretary, each.....	1,500
Inspector of repairs.....	2,700
Clerk to inspector of repairs.....	1,500
Inspector of buildings.....	2,500
Three inspectors of buildings, each.....	2,200

KANSAS CITY, KANS.

Superintendent of schools.....	5,000
Director, continuation schools.....	4,000
Four district supervisors, each.....	2,760
One special supervisor.....	2,388
Four special supervisors, each.....	2,208
Two stenographers, each.....	1,800
One stenographer.....	1,140
One attendance officer.....	1,560
Three attendance officers, each.....	1,125
Clerk, board of education.....	3,000
Bookkeeper.....	1,800
Switchboard operator.....	1,320
Stenographer.....	1,020
Superintendent, buildings and grounds....	3,000
Purchasing agent.....	2,400
Chief engineer.....	2,100
Bookkeeper.....	1,680
Supply clerk.....	1,560

Salaries in detail for cities of over 100,000 population—Continued.

KANSAS CITY, KANS.—continued.

Stenographer.....	\$1,500
Architect.....	1,200

KANSAS CITY, MO.

Superintendent.....	7,500
Assistant superintendent.....	4,740
Assistant superintendent.....	4,620
District superintendent.....	3,780
District superintendent.....	3,720
Director of—	
Vocational education.....	4,740
Research.....	4,980
Primary-kindergarten.....	3,800
Assistant director of research.....	2,640
Psychologist.....	3,000
Secretary to superintendent.....	2,100
Clerk, compulsory education.....	2,100
Pay-roll clerk.....	1,800
One stenographer and clerk.....	1,440
One stenographer and clerk.....	1,320
Three stenographers and clerks, each.....	1,200

LOS ANGELES, CALIF.

Superintendent.....	8,000
Deputy superintendent.....	4,800
First assistant superintendent.....	4,600
Second assistant superintendent.....	4,600
Third assistant superintendent.....	4,200
Fourth assistant superintendent.....	4,200
Assistant to superintendent.....	2,400
Assignment secretary.....	2,238
Two clerks, each.....	1,500
One clerk.....	1,440
Two clerks, each.....	1,320
Three stenographers, each.....	1,320
Junior clerk.....	1,025
Chauffeur.....	1,500
Chief telephone operator.....	1,280
Three assistant telephone operators, each..	1,140
Evening telephone operator.....	360

Business Manager's Department.

Business manager's office:

Business manager.....	5,000
Clerk.....	2,220
Clerk.....	2,100
Stenographer.....	1,320
Clerk.....	1,320
Chauffeur.....	1,500

Supply department:

Supply clerk.....	2,220
Assistant to supply clerk.....	1,680
Requisition clerk.....	1,500
Head stock and record clerk.....	1,500
Stenographer and clerk.....	1,440
Clerk.....	1,200
Stenographer and clerk.....	1,200
Stenographer and clerk.....	1,080
Filing clerk.....	1,080
Two stock record clerks, each.....	1,200
Receiving clerk.....	1,560
Shipping clerk.....	1,560
Six stock clerks, each.....	1,200
Janitor.....	1,320

LOS ANGELES, CALIF.—continued.

Purchasing department:

Chief clerk.....	\$1,920
Stenographer and clerk.....	1,380
Stenographer and clerk.....	1,320
Clerk.....	1,200
Stenographer and clerk.....	1,200
Telephone operator.....	1,200

Military equipment division:

Stock clerk.....	1,280
Helper.....	1,080
Clerk.....	2,100

Shop department:

Clerk.....	2,380
Four district foremen, each.....	2,160
Yard foreman.....	2,160
Chief electrician.....	2,160
Stenographer.....	1,320
Night watchman.....	1,320

Five truck drivers, each..... 1,440

Clock and bell foreman..... 1,920

Secretary's office:

Secretary.....	3,900
Assistant secretary.....	2,160
Chief clerk.....	2,160
Bookkeeper.....	1,680
Two minute clerks, each.....	1,500
Correspondence clerk.....	1,500
Five stenographers and clerks, each...	1,320
Clerk.....	1,140

Auditor's office:

Auditor.....	3,900
Deputy auditor.....	2,220
Assistant to deputy auditor.....	1,680
Five senior bookkeepers, each.....	1,680
Two junior bookkeepers, each.....	1,380
Four assistant bookkeepers, each.....	1,200
Senior stenographer.....	1,320
Two junior stenographers, each.....	1,200
Demand clerk.....	1,320
Counter clerk.....	1,200
Timekeeper.....	1,200
Bookkeeping machine operator.....	1,025
Messenger and typist.....	900

Compulsory education and child-welfare department:

Director.....	3,600
Assistant director.....	2,400
Division supervisor.....	2,040
Chief attendance officer.....	2,000
Twelve attendance officers, each.....	920
Clerk.....	1,380
Clerk.....	1,140
Two clerks, each.....	1,020

Department of psychology and educational research:

Director.....	3,600
Assistant director.....	2,964
Secretary.....	1,320
Clerk.....	1,200

Health and development department:

Director.....	3,900
Nine physicians, each.....	2,640
Four dentists, each.....	2,640

Salaries in detail for cities of over 100,000 population—Continued.

LOS ANGELES, CALIF.—continued.

Health and development department—con.	
Eleven senior nurses, each.....	\$1,440
Three junior nurses, each.....	1,320
Clerk.....	1,200
Matron.....	1,200
Dental assistant.....	960
Dental assistant.....	1,020
Department of part-time instruction:	
Director.....	3,600
Two coordinators, each.....	3,300
Elementary school library:	
Supervising librarian.....	2,400
Two assistant librarians, each.....	1,560
Assistant librarian.....	1,620
Clerk.....	960
Clerk.....	720
Supervisor of—	
Home economics.....	3,840
Drawing.....	3,840
Physical training.....	3,840
Vocational training.....	3,840
Immigration.....	3,840
Kindergarten.....	3,840
Manual arts (sloyd).....	3,840
Music.....	3,840
Orchestra.....	3,840
Nature study.....	3,840
Penmanship.....	3,840
Modern languages.....	3,840
Agriculture.....	3,840
Cardboard construction.....	3,600
Primary manual arts.....	3,600
Forty-three assistant supervisors, each.	2,964
Five clerks, each.....	1,200

LOUISVILLE, KY.

Superintendent.....	5,000
Secretary to superintendent.....	2,400
Stenographer.....	1,008
Stenographer.....	936
Librarian.....	1,140
Telephone operator.....	1,020

LOWELL, MASS.

Superintendent of schools.....	5,000
Clerk.....	1,400
Clerk.....	1,000
Attendance officer.....	3,000
Attendance officer.....	2,400
Attendance officer.....	2,000
Attendance officer.....	1,800
Clerk, attendance office.....	1,200
Business agent.....	3,100
Clerk, business agent's office.....	1,200
Stock clerk.....	1,600

MEMPHIS, TENN.

Superintendent.....	5,000
Supervisors, each.....	1,980
Attendance officers, each.....	1,320
Secretary to school board.....	3,000
Secretary to superintendent of schools...	1,620
Clerks (average salary).....	1,200

MILWAUKEE, WIS.

Superintendent of schools.....	\$9,000
Asst. supt. of schools.....	5,000
Asst. supt. of schools (primary dept.).....	4,520
Assistant to superintendent.....	3,840
Supervisor of—	
Industrial education.....	5,500
Street trades.....	2,760
Attendance.....	3,840
Director of—	
Drawing.....	3,840
Elementary manual training.....	3,840
Household arts.....	3,840
Music.....	3,840
Special classes.....	3,480
Social centers.....	2,760
Supervisor of physical training.....	3,840
Secretary-business manager.....	7,200
Auditor.....	3,840
Supply clerk.....	3,840
Asst. to supt. (extension dept.).....	4,200
Athletic director.....	2,760

MINNEAPOLIS, MINN.

Superintendent of schools.....	8,000
Assistant superintendent (instructional)...	4,500
Assistant superintendent (instructional)...	4,000
Assistant superintendent (industrial).....	4,500
Assistant superintendent (business).....	5,000
Assistant superintendent (office).....	3,600
Supervisor of—	
Evening and summer schools.....	2,500
Domestic science and lunch room.....	2,500
Drawing.....	2,750
Music.....	3,200
Manual training.....	3,300
Penmanship.....	2,200
Subnormals-mental examinations.....	2,300
Blind.....	1,850
Physical education.....	3,300
Director, attendance and guidance.....	3,000
Director, Americanization.....	2,700
Special teacher of—	
Drawing.....	2,333
Home economics.....	2,283
Physical education.....	2,500
Physical education.....	2,083
General department:	
Secretary to superintendent.....	2,400
Asst. secretary, board of education.....	2,000
Librarian.....	1,800
Mail and supply clerk.....	960
Telephone operator.....	1,200
Telephone operator (assistant).....	840
Civil service record clerk.....	1,560
Information clerk.....	1,020
Page.....	810
Page.....	720
Educational department (instructional division):	
Stenographer to superintendent.....	1,680
Stenographer to supervisors.....	1,080
Stenographer-clerk.....	900
Chief clerk.....	1,920

Salaries in detail for cities of over 100,000 population.

MINNEAPOLIS, MINN.—continued.

Educational department (instructional division)—Continued.

Records of substitute teachers.....	\$1,440
Special activities clerk.....	1,200
Clerk, teachers' applications.....	1,200
Clerk, hygiene and physical education..	1,380
Clerk, files.....	960

Attendance and guidance division:

Supervising attendance officer.....	1,700
Two attendance officers, each.....	1,400
Two attendance officers, each.....	1,350
Vocational guidance.....	2,658
Vocational guidance.....	2,040
Vocational guidance.....	1,560
Vocational guidance.....	1,320
Supervising census clerk.....	1,440
Census clerk.....	1,260
Census clerk.....	1,200
Census clerk.....	1,140
Two census clerks, each.....	1,080
Absentee desk.....	1,200
Absentee desk.....	1,140
Statistician.....	1,900
Stenographer.....	1,080
Stenographer (guidance).....	1,320
Stenographer (physical education and hygiene).....	1,020

Finance department:

Auditor.....	3,300
Two accountants, each.....	1,680
Pay rolls clerk.....	1,920
Pay rolls clerk (assistant).....	1,020
Stenographer.....	1,380

Business department:

Assistant business superintendent.....	2,460
Secretary to business superintendent...	1,500
Statistical eng., real est., ins.....	2,100
Purchase requisition clerk.....	2,100
Bookkeeper.....	1,260
Bookkeeper (lunch rooms).....	1,500
Stenographer (purchase requisitions)..	1,320
Stenographer (work orders).....	1,200
Stenographer.....	1,260
Textbook clerk.....	1,200
Textbook clerk.....	1,140
Invoice clerk.....	1,860
Invoice clerk.....	1,440
Invoice clerk.....	1,140
Cost records clerk.....	1,260
Stock record clerk.....	1,140
Stock adjustment clerk.....	1,380
File clerk.....	1,080
One clerk.....	1,140
Three clerks, each.....	1,020
One clerk (lunch rooms).....	960

Bureau of buildings division:

Building inspector.....	2,220
Architectural engineer.....	3,600
Architectural designer.....	2,700
Senior architectural draftsman.....	2,700
Three architectural draftsmen, each...	2,040
Two architectural draftsmen, each....	1,980
One architectural draftsman.....	1,920
One architectural draftsman.....	1,680
One architectural draftsman.....	1,620

MINNEAPOLIS, MINN.—continued.

Bureau of buildings division—Continued.

One architectural draftsman.....	\$1,380
Mechanical engineer.....	3,600
Two mechanical draftsmen, each.....	1,920
Structural draftsman.....	2,220
Structural draftsman.....	1,980
Structural draftsman.....	1,860
Stenographer.....	1,380

Buildings and repair division:

Operating engineer.....	2,700
Supervisor of buildings.....	3,600
Foreman of grounds.....	2,220
Service investigator.....	1,900
Service inspector.....	1,920
Accountant.....	1,680
Pay rolls clerk.....	1,260
Stenographer.....	1,320
Stenographer.....	960
Telephone operator.....	900
Clerk.....	1,080
File clerk.....	1,080

Supply division:

Stores keeper.....	2,400
Assistant stores keeper.....	1,440
Stenographer.....	1,140
Typist.....	960
Two clerks, each.....	1,020
Stock clerk.....	1,200
Utility man.....	1,200

NASHVILLE, TENN.

Superintendent of schools.....	4,800
Supervisor of vocal music.....	1,700
Supervisor of writing and drawing.....	1,700
Two academic supervisors, each.....	1,500
Assistant supervisor, writing and drawing.	1,100
Supervisor, grade work (colored).....	1,200
Business manager.....	3,000
Clerk and stenographer.....	1,440
Clerk and stenographer.....	960
Clerk and telephone operator.....	900
Custodian of supplies.....	1,020
Janitor.....	540
Truck driver.....	720
Chief medical inspector.....	1,250
Two assistant medical inspectors, each...	1,100
Assistant medical inspector (colored)....	450
Attendance officer.....	1,440

NEWARK, N. J.

Superintendent.....	10,000
Three assistant superintendents, each....	4,900
One assistant superintendent.....	4,700
One assistant superintendent.....	4,500
Clerk to superintendent.....	4,200
Director of manual arts.....	3,900
Supervisor of—	
Manual training (grammar).....	2,700
Manual training (primary).....	2,600
Drawing.....	2,900
Drawing (alternating schools).....	2,500
Domestic art.....	2,900
Domestic science.....	2,900
Music (alternating schools).....	2,700

Salaries in detail for cities of over 100,000 population.

NEWARK, N. J.—continued.

Supervisor of—Continued.	
Physical education.....	\$3,900
Athletics (high and elementary schools).....	3,000
Penmanship.....	2,900
Binet schools and classes.....	2,900
General supervisor.....	3,200
Director of music.....	3,200
Assistant supervisor of—	
Drawing.....	2,400
Drawing.....	2,000
Domestic art.....	2,600
Domestic art.....	2,400
Music.....	2,600
Music.....	2,000
Music.....	1,800
Physical training, 2 each.....	2,800
Physical training, 2 each.....	2,600
One clerk.....	1,920
One clerk.....	1,740
Two clerks, each.....	1,440
Three clerks, each.....	1,140
Two clerks, each.....	1,020
One clerk.....	960
One clerk.....	900
Two clerks, each.....	840
One clerk.....	660
One clerk.....	480
Supervisor of attendance.....	4,020
Assistant supervisor of attendance.....	3,000
Attendance officers:	
One officer.....	2,000
Four officers, each.....	1,700
One officer.....	1,640
Four officers, each.....	1,460
Seven officers, each.....	1,400
One officer.....	1,340
Three officers, each.....	1,280
Two officers, each.....	1,200
One officer.....	1,080
One clerk.....	1,020
One clerk.....	900
Two clerks, each.....	840
Supervisor of medical inspection.....	3,000
Assistant supervisor of medical inspection.....	1,700
Psychologist.....	3,500
Assistant psychologist.....	1,680
Assistant psychologist.....	1,000
Assistant ophthalmologist.....	1,140
Two dentists, each.....	1,020
Seven medical inspectors, each.....	750
Sanitary inspector.....	1,440
Fifteen nurses, each.....	1,720
One nurse.....	1,660
One nurse.....	1,600
Four nurses, each.....	1,480
Three nurses, each.....	1,420
Three nurses, each.....	1,360
Two clerks, each.....	1,020
One clerk.....	840
Business manager's department:	
Business manager.....	9,000
Assistant business manager.....	3,600
Secretary to business manager.....	3,000
Building inspector.....	3,000

NEWARK, N. J.—continued.

Business manager's department—Contd.	
Clerk.....	\$1,500
Clerk.....	900
Clerk.....	420
Stenographer.....	1,196
Two drivers, each.....	1,240
Supply department:	
Superintendent of supplies.....	4,800
Assistant superintendent of supplies.....	3,000
Supervisor of equipment.....	2,600
One clerk.....	2,000
Two clerks, each.....	1,920
One clerk.....	1,500
One clerk.....	1,440
One clerk.....	1,400
Two clerks, each.....	1,140
Three clerks, each.....	1,020
One clerk.....	1,000
Two clerks, each.....	900
One clerk.....	840
One clerk.....	420
Secretary's office:	
Secretary, board of education.....	6,000
Assistant secretary.....	3,600
Counsel.....	4,000
One clerk.....	2,100
One clerk.....	1,920
One clerk.....	1,320
One clerk.....	1,020
Two clerks, each.....	960
Two clerks, each.....	780
One clerk.....	540
One clerk.....	420
Telephone operator.....	1,320

NEW BEDFORD, MASS.

Superintendent of schools.....	5,500
Secretary to superintendent.....	1,716
Two clerks to superintendent, each.....	1,300
One clerk to superintendent.....	936
One clerk to superintendent.....	780
Assistant superintendent of schools.....	3,600
Grade supervisor.....	2,850
Supervisor of—	
Instrumental music.....	3,200
Vocal music.....	2,975
Two assistants, each.....	1,800
Drawing.....	2,975
Two assistants, each.....	1,800
Manual training.....	2,850
Three assistants, each.....	1,700
Cooking.....	1,850
Two assistants, each.....	1,700
Sewing.....	1,850
Five assistants, each.....	1,700
Physical training.....	2,500
Assistant.....	1,700
School nurses.....	1,664
Three assistants, each.....	1,560
Americanization (part-time).....	2,200
Department mechanic.....	2,080
Director of Americanization (part time)....	400
Director of continuation schools.....	3,600
Three clerks, each.....	780

Salaries in detail for cities of over 100,000 population—Continued.

NEW BEDFORD, MASS.—continued		NEW ORLEANS, LA.—continued.	
Specialist for eyesight classes (part time)...	\$1,000	Attendance officer.....	\$2,700
Director of community centers.....	4,000	Assistant attendance officer.....	1,680
Two supervisors, each.....	2,250	Assistant attendance officer.....	1,500
One assistant supervisor.....	1,800	Physical training supervisor.....	3,240
One assistant supervisor.....	1,000	Assistant.....	2,640
Clerk.....	780	Assistant.....	2,160
NEW HAVEN, CONN.		Clerks and stenographers, \$1,080 to \$1,680.	
Superintendent.....	5,000	Secretary ⁴	5,400
Three assistant superintendents, each.....	3,950	Inspector ⁴	3,900
Supervisor of—		Bookkeeper ⁴	3,600
Music.....	2,650	Assistant inspector ⁴	2,520
Assistant.....	1,650	Clerks and stenographers, ⁴ \$900 to \$1,980.	
Assistant.....	1,525	NEW YORK, N. Y.	
Drawing.....	2,750	Supervising force:	
Assistant.....	1,650	Superintendent.....	12,000
Penmanship.....	2,650	Eight associate superintendents, each..	8,250
Kindergarten.....	2,100	District superintendent.....	7,500
Sewing.....	1,850	Twenty-six district superintendents,	
Two assistants, each.....	1,750	each.....	6,600
Two assistants, each.....	1,500	Seven examiners, each.....	7,700
One assistant.....	1,250	Director of—	
One assistant.....	1,150	Reference, research, and statistics.	7,000
Physical training.....	2,650	Attendance.....	7,700
Elementary science (part time).....	500	Assistant.....	5,500
Subnormal department.....	2,100	Lectures.....	6,600
Cooking.....	1,500	Assistant.....	4,500
Cooking, two at.....	1,600	Art.....	5,500
Cooking, three at.....	1,250	Drawing.....	5,500
Cooking, two at.....	1,050	Speech improvement.....	5,000
Shopwork, four at.....	1,900	Music.....	5,500
Shopwork, one at.....	1,700	Assistant.....	4,275
Shopwork, one at.....	1,650	Kindergartens.....	5,000
Shopwork, two at.....	1,600	Two assistants, each.....	3,780
Two truant officers (paid by police dept.).		Sewing, two each.....	5,000
Health inspectors, nurses, dentists, etc.		Cooking.....	5,000
(paid by health dept.).		Assistant.....	3,780
Supply clerk.....	2,750	Physical training.....	5,500
Stenographer.....	1,000	One assistant.....	5,500
Clerk.....	900	Three assistants, each.....	4,500
Superintendent of buildings.....	3,250	Recreational activities.....	7,000
Stenographer and clerk.....	900	Vocational activities.....	7,500
Secretary.....	3,550	Evening and continuation schools..	7,000
Assistant secretary.....	2,000	Modern languages in high schools..	5,500
Stenographer and clerk.....	1,500	High-school organization.....	5,500
Bookkeeper.....	1,500	Assistant director of manual training..	4,500
Pay-roll clerk.....	1,400	Five inspectors of public-school ath-	
Bill clerk.....	1,400	letics, each.....	3,300
Telephone operator.....	1,000	Superintendent of libraries.....	5,000
Office boy.....	600	Library assistant.....	2,100
Superintendent's clerks:		Two physicians to examine teaching	
Secretary.....	2,100	applicants, each.....	2,600
Stenographer and clerk.....	1,200	Two assistant directors of educational	
Clerk.....	900	hygiene, each.....	4,500
NEW ORLEANS, LA.		Inspector of playgrounds and recreation	
Superintendent.....	8,000	centers.....	2,700
First assistant.....	4,500	Inspector of ungraded classes.....	5,000
Second assistant.....	4,000	Two assistants, each.....	3,780
Medical inspector.....	2,400	Two medical inspectors of ungraded	
Assistant medical inspector.....	1,920	classes, each.....	3,600
Nurse.....	1,500	Inspector of classes for the blind.....	3,780
Nurse.....	1,920	Two supervisors of continuation classes,	
		each.....	3,300

⁴ Officers and employees directly responsible to board of education.

Salaries in detail for cities of over 100,000 population—Continued.

NEW YORK, N. Y.—continued.

Office of superintendent of schools:

Chief clerk.....	\$4,500
One clerk.....	5,500
Two clerks, each.....	4,800
One clerk.....	3,312
Seven clerks, each.....	2,820
Ten clerks, each.....	2,640
Clerk.....	2,262
Clerk.....	2,106
Clerk.....	1,950
Three clerks, each.....	1,482
Five clerks, each.....	1,326
Clerk.....	1,170
Three clerks, each.....	1,014
Clerk.....	858
Three clerks, each.....	702
Four stenographers, each.....	2,820
Two stenographers, each.....	2,640
Three stenographers, each.....	2,262
Three stenographers, each.....	2,106
Three stenographers, each.....	1,950
Three stenographers, each.....	1,794
Eighteen stenographers, each.....	1,482
Twelve stenographers, each.....	1,326
One stenographer.....	1,170
Two typewriter copyists, each.....	1,326
One typewriter copyist.....	1,014
Mechanical draftsman.....	2,106
Printer for the blind.....	2,106

Board of examiners:

Clerk.....	8,600
Clerk.....	2,640
Clerk.....	2,262
Two clerks, each.....	2,106
Two clerks, each.....	1,950
Six clerks, each.....	1,326
Clerk.....	702
Two stenographers, each.....	2,820
Stenographer.....	2,640
Stenographer.....	2,262
Stenographer.....	1,950
Stenographer.....	1,794
Two stenographers, each.....	1,326

Bureau of reference, research, and statistics:

Clerk.....	3,528
Two clerks, each.....	2,640
Two clerks, each.....	2,106
Clerk.....	1,950
Clerk.....	1,794
Clerk.....	1,638
Three clerks, each.....	1,482
Four clerks, each.....	1,326
Clerk.....	1,014
Three clerks, each.....	858
Clerk.....	702
Stenographer.....	1,950
Stenographer.....	1,794
Stenographer.....	1,482
Stenographer.....	1,326
Stenographer.....	1,170
Typewriter copyist.....	1,170
Typewriter copyist.....	1,014
Statistician.....	3,312
Statistician.....	2,820

NEW YORK, N. Y.—continued.

Bureau of reference, research, and statistics—Continued.

Statistician.....	\$2,262
Six tabulating-machine operators, each.....	1,482
Tabulating-machine operator.....	1,170

Bureau of attendance:

Chief attendance officer.....	4,752
Two division supervising attendance officers, each.....	3,672
Twenty-five district attendance officers, each.....	2,808
One district attendance officer.....	2,680
Seventy-nine attendance officers, each.....	1,690
Fifty-one attendance officers, each.....	1,820
Twelve attendance officers, each.....	1,950
Eight attendance officers, each.....	2,080
Four attendance officers, each.....	2,210
Ninety-nine attendance officers, each.....	2,340
One clerk.....	2,640
Four clerks, each.....	2,106
Two clerks, each.....	1,950
Five clerks, each.....	1,794
Eight clerks, each.....	1,482
Twenty-nine clerks, each.....	1,326
Three clerks, each.....	1,170
Ten clerks, each.....	1,014
One clerk.....	858
Thirty-nine clerks, each.....	702
Stenographer.....	2,820
Stenographer.....	1,794
Stenographer.....	1,482
Stenographer.....	1,326
Telephone switchboard operator.....	1,482

Offices of district superintendents:

Three clerks, each.....	2,106
Six stenographers, each.....	1,950
Twelve stenographers, each.....	1,794
One stenographer.....	1,482
One stenographer.....	1,170

Teachers' council: Clerk.....

2,106

Bureau of buildings:

Superintendent of buildings.....	11,000
Five deputy superintendents of buildings, each.....	6,500
One deputy superintendent of building.....	5,500
Sanitary assistant.....	5,500
Assistant chief, sanitary division.....	4,000
Chief of electrical division.....	5,500
Assistant chief, electrical division.....	4,200
Chief of furniture division.....	4,500
Assistant chief, furniture division.....	4,000
Engineer.....	3,528
Assistant engineer.....	4,000
Assistant engineer.....	4,320
One clerk.....	5,500
One clerk.....	3,528
One clerk.....	2,820
Two clerks, each.....	2,640
Two clerks, each.....	2,262
One clerk.....	2,106
One clerk.....	1,326
One clerk.....	1,170
One clerk.....	1,014
Six clerks, each.....	702

Salaries in detail for cities of over 100,000 population—Continued.

NEW YORK, N. Y.—continued.

Bureau of buildings—Continued.

One stenographer.....	\$2, 820
Two stenographers, each.....	2, 640
Five stenographers, each.....	2, 262
One stenographer.....	2, 106
One stenographer.....	1, 950
Three stenographers, each.....	1, 794
Four stenographers, each.....	1, 482
One stenographer.....	1, 326
Typewriting copyist.....	1, 326
Telephone switchboard operator.....	1, 482
Telephone switchboard operator.....	1, 326
Messenger.....	2, 262
One architectural draftsman.....	4, 000
Nine architectural draftsmen, each....	3, 528
Seven architectural draftsmen, each....	3, 312
Forty-four architectural draftsmen, each.....	2, 820
Four architectural draftsmen, each....	2, 640
Eleven architectural draftsmen, each..	2, 470
Two architectural draftsmen, each.....	2, 106
Nineteen architectural draftsmen, each..	1, 638
One mechanical draftsman.....	2, 820
One mechanical draftsman.....	2, 470
Two mechanical draftsmen, each.....	2, 262
Nine structural steel draftsmen, each..	2, 820
Five structural steel draftsmen, each..	2, 470
Eleven junior draftsmen, each.....	1, 794
One junior draftsman.....	1, 482
Eighteen junior draftsmen, each.....	1, 170
Six general inspectors, each.....	3, 528
Three general inspectors, repairs, each..	3, 528
One general inspector, repairs.....	3, 096
One inspector, iron and steel construction.....	3, 528
One inspector, carpentry.....	2, 820
Seven electrical inspectors, each.....	2, 820
Two electrical inspectors, each.....	1, 950
One inspector of electrical conductors..	2, 820
Two furniture inspectors, each.....	2, 820
Four inspectors of masonry, each.....	2, 820
Thirty-four inspectors of masonry and carpentry, each.....	2, 820
One inspector of masonry and carpentry.....	2, 262
One inspector of masonry and carpentry.....	1, 950
Two inspectors of masonry and carpentry, each.....	942
One inspector of painting.....	2, 820
Four inspectors of repairs, each.....	2, 820
Two inspectors of repairs, each.....	2, 470
Eleven sanitary inspectors, each.....	2, 820
One sanitary inspector.....	2, 470
One sanitary inspector.....	1, 950
Laborer.....	1, 794
Photographer.....	2, 262
Expert blue printer.....	2, 262
Autotruck driver.....	1, 794

Bureau of supplies:

Superintendent of supplies.....	9, 000
Deputy superintendent of supplies....	4, 000
Two clerks, each.....	4, 000
Four clerks, each.....	3, 312

NEW YORK, N. Y.—continued.

Bureau of supplies—Continued.

Five clerks, each.....	\$2, 820
Ten clerks, each.....	2, 640
Two clerks, each.....	2, 262
Four clerks, each.....	2, 106
Three clerks, each.....	1, 950
Nineteen clerks, each.....	1, 794
One clerk.....	1, 638
Two clerks, each.....	1, 482
Twenty clerks, each.....	1, 326
Two clerks, each.....	1, 170
Twenty-five clerks, each.....	1, 014
Three clerks, each.....	858
One clerk.....	702
One stenographer.....	2, 820
One stenographer.....	2, 640
Two stenographers, each.....	2, 262
Three stenographers, each.....	2, 106
Two stenographers, each.....	1, 794
Five stenographers, each.....	1, 326
One stenographer.....	1, 014
Moon-Hopkins machine operator.....	1, 170
Moon-Hopkins machine operator.....	1, 014
Chemist.....	2, 820
Orderly.....	2, 262
Orderly.....	1, 326
Toolman.....	1, 950
One storekeeper's helper.....	1, 794
Four storekeeper's helpers, each.....	1, 950
Fourteen storekeeper's helpers, each...	1, 482
One storekeeper's helper.....	1, 326
One laborer.....	1, 794
Nine laborers, each.....	1, 482
Two laborers, each.....	1, 326
One laborer.....	858
Nineteen cleaners, each.....	1, 482
Attendant.....	1, 482
Gymnasium attendant.....	2, 820
Four autotruck drivers, each.....	1, 794
Automobile engineman.....	2, 106
Licensed steam boiler fireman.....	2, 106
Fuel engineer.....	4, 500
One fuel inspector.....	2, 820
Ten fuel inspectors, each.....	2, 640

Bureau of finance:

Auditor.....	7, 500
Deputy auditor.....	6, 000
Two clerks, each.....	4, 200
One clerk.....	4, 000
Two clerks, each.....	3, 312
Three clerks, each.....	2, 820
Three clerks, each.....	2, 640
Six clerks, each.....	2, 262
Seven clerks, each.....	2, 106
Five clerks, each.....	1, 794
One clerk.....	1, 638
Five clerks, each.....	1, 482
Forty-five clerks, each.....	1, 326
Four clerks, each.....	1, 170
One clerk.....	1, 014
One clerk.....	858
Five clerks, each.....	702
Bookkeeper.....	4, 200
Four examiners of claims, each.....	3, 312

Salaries in detail for cities of over 100,000 population—Continued.

NEW YORK, N. Y.—continued.

Bureau of finance—Continued.

Stenographer.....	\$2,820
Stenographer.....	1,326
One typewriting copyist.....	1,950
Two typewriting copyists, each.....	1,326
Three tabulating-machine operators, each.....	1,826
Typewriter accountant.....	1,482

Office of the secretary, board of education:

Secretary.....	6,500
Assistant secretary.....	5,000
Chief clerk.....	4,000
Clerk.....	3,960
Clerk.....	3,312
Two clerks, each.....	2,820
Clerk.....	1,950
Clerk.....	1,482
Clerk.....	1,326
Two clerks, each.....	1,014
Clerk.....	858
Three stenographers, each.....	3,312
Stenographer.....	2,820
Two stenographers, each.....	1,794
Stenographer.....	1,482
Typewriting copyist.....	2,640
Typewriting copyist.....	1,794
Telephone-switchboard operator.....	1,170
Three telephone-switchboard operators, each.....	1,482
Messenger.....	2,262
Chauffeur.....	2,820
Chauffeur.....	1,482
Confidential secretary.....	3,312
Confidential secretary.....	2,640
Confidential secretary.....	2,470

Bureau of plant operation:

Superintendent of plant operation.....	7,500
Chief of heating and ventilating div....	5,500
Asst. chief of heating and ventilating div.....	4,200
Supervisor of janitors.....	3,600
Three assistant supervisors of janitors, each.....	3,528
Clerk.....	4,500
Two clerks, each.....	2,640
Clerk.....	1,794
Clerk.....	1,170
Clerk.....	624
Stenographer.....	2,106
Three stenographers, each.....	1,326
Assistant engineer.....	3,600
Assistant engineer.....	3,528
Mechanical engineer.....	3,528
Mechanical draftsman.....	3,528
Three mechanical draftsmen, each.....	2,820
Four mechanical draftsmen, each.....	2,640
Architectural draftsman.....	2,820
Architectural draftsman.....	2,640
Junior draftsman.....	2,262
Junior draftsman.....	2,106
Three junior draftsmen, each.....	1,794
Heating and ventilating inspector.....	3,312

NEW YORK, N. Y.—continued.

Bureau of plant operation—Continued.

Eleven heating and ventilating inspectors, each.....	\$2,820
Inspector of boiler-pipe covering.....	2,640
Bureau of lectures:	
Stenographer.....	2,262
Two stenographers, each.....	2,106
Stenographer.....	1,950
Stenographer.....	1,482
Two stenographers, each.....	1,326
Clerk.....	1,014
Clerk.....	702
Librarian.....	1,950

NORFOLK, VA.

Division superintendent.....	5,000
Supervisor of instruction.....	4,000
Primary-kindergarten supervisor.....	2,500
Secretary, school board.....	1,800
Auditor, school board.....	2,500
Stenographer, school board office.....	1,320
Superintendent of buildings.....	3,000
Vocational director.....	3,300
Assistant vocational director.....	1,725
Supervisor of—	
Art department.....	1,625
Penmanship.....	1,550
Music department.....	1,675
Special classes.....	1,800
Director, physical training department....	2,200
Attendance officers:	
White.....	1,000
Colored.....	550

OAKLAND, CALIF.

Superintendent of schools.....	10,000
Two assistant superintendents of schools, each.....	5,500
Secretary to superintendent.....	2,460
Secretary-business manager.....	4,500
Assistant business manager.....	2,750
Auditor.....	3,300
Astronomer.....	3,060
Detention home instructor.....	2,040
Supervising storekeeper.....	2,700
Supervising custodian.....	2,400
Supervising librarian.....	2,508
Supervisor of—	
Reports and information.....	2,040
Speech defects.....	2,820
Two assistant supervisors of music, each...	2,820
Supervisor of—	
Bands and orchestra (1).....	690
Physical education.....	2,840
Two assistants, each.....	2,820
Penmanship.....	2,820
Kindergarten and primary education..	2,820
Supervisor and director, patriotic activities.	2,880
Assistant supervisor of manual training....	2,820
Two assistant supervisors of drawing, each	2,820

Salaries in detail for cities of over 100,000 population—Continued.

OAKLAND, CALIF.—continued.

Director of—	
Health and sanitation.....	\$3,744
Assistant.....	2,760
Citizenship.....	3,240
Science ($\frac{1}{2}$).....	1,980
Assistant.....	1,440
Boys' vocational work.....	3,900
Assistant ($\frac{1}{2}$).....	1,572
Social studies ($\frac{1}{2}$).....	1,620
Home economics (\$480 for evening)....	3,220
Assistant ($\frac{1}{2}$).....	1,620
Agriculture ($\frac{1}{2}$).....	1,425
Physical education ($\frac{1}{2}$).....	975
Art.....	3,060
Music.....	3,660
Research and guidance ($\frac{1}{2}$).....	4,000
Four assistants, each.....	2,820
Attendance (\$350 included as auto expense).....	3,410
Chief attendance officer (\$350 for auto)....	2,750
Four assistant attendance officers (\$350 for auto), each.....	2,030
Accountant.....	2,400
Two assistant accountants, each.....	2,040
Pay-roll clerk.....	2,400
Bookkeeper.....	1,620
Warrant clerk.....	1,620
Six secretarial stenographers, each.....	1,620
Nine junior stenographers, each.....	1,320
Statistical clerk.....	1,620
Census file clerk.....	1,320
Duplicator operator.....	1,320
File clerk.....	1,320
Telephone operator.....	1,320
Three senior clerks, each.....	1,800
Four junior clerks, each.....	1,320

OMAHA, NEBR.

Superintendent of schools.....	10,000
Assistant superintendent.....	4,200
Assistant superintendent.....	3,500
Assistant superintendent.....	3,300
Secretary.....	4,800
Superintendent of buildings.....	4,800
Assistant superintendent of buildings.....	3,000
Supervisor of—	
Kindergartens.....	2,600
Drawing.....	2,200
Physical education.....	2,200
Writing.....	2,400
Music.....	2,500
Manual training.....	2,700
Nurses.....	2,700
Assistant supervisor of drawing.....	2,000
Assistant supervisor of physical education..	1,500
Director of vocational guidance and department of child labor.....	2,000
Attendance officer.....	2,200
Assistant attendance officer.....	1,800
Assistant attendance officer.....	1,600
Supervisor of—	
Music in high schools (part time).....	1,440

* Plus \$200 bonus.

OMAHA, NEBR.—continued.

Supervisor of—Continued.	
Night schools.....	\$2,100
Speech correction.....	1,600
Director of department of health supervision (part time).....	2,000
School dentist.....	2,400
One clerk.....	2,100
One clerk.....	1,650
Two clerks, each.....	1,500
One clerk.....	1,350
One clerk.....	1,275
Two clerks, each.....	1,200
Two clerks, each.....	1,080
Four clerks, each.....	980

PATERSON, N. J.

Superintendent of schools.....	6,000
General supervisor.....	4,800
Supervisor of—	
Drawing.....	2,200
Assistant.....	1,800
Music.....	2,000
Cooking.....	2,200
Sewing.....	2,200
Mentally defective children.....	2,100
Manual training.....	2,900
School hygiene.....	5,000
Eight medical inspectors, each.....	500
Chief attendance officer.....	2,050
Three attendance officers, each.....	1,650
One attendance officer.....	* 1,200
Stenographer.....	* 1,700
Stenographer.....	* 1,550
Secretary, board of education.....	3,500
Assistant secretary.....	3,000
Accountant.....	* 2,100
Stenographer.....	* 1,450
Clerk.....	* 1,300
Clerk.....	* 1,150

PHILADELPHIA, PA.

Superintendent of schools.....	12,000
Four associate superintendents, each.....	5,000
Eight district superintendents, each.....	4,070
Director of—	
Music.....	5,000
Art education.....	4,510
Kindergartens.....	3,410
Practical arts and vocational education.....	4,510
Examinations.....	4,510
Compulsory education.....	4,510
Medical inspection.....	4,510
Supervisor of special education for handicapped children.....	
	3,410
	Min. Max.
Eighteen assts. to dir. of music, each.	\$1,240 * 2,040
Ten assts. to dir. of art education, each.....	1,240 * 2,040
One asst. to dir. of kindergartens...	1,240 * 2,040
Twenty-five assts. to dir. of physical ed., each.....	1,240 * 2,040

* Ten years.

Salaries in detail for cities of over 100,000 population—Continued.

PHILADELPHIA, PA.—Continued.

	Min.	Max.
Five assts. to dir. of prac. arts and voca. ed., each.....	\$1,240	\$2,040
Nine attendance supervisors, each..	1,240	\$ 2,040
One employment supervisor.....	1,240	\$ 2,040
Sixty-two attendance officers—		
Class A, each.....	1,200	† 1,500
Class B, each.....	1,600	† 2,000
Eight medical supervisors, each....	1,240	\$ 2,040
Seventy-four medical inspectors, each.....	1,000	† 1,200
Head nurse.....	1,240	\$ 2,040
Forty school nurses, each.....	1,000	\$ 1,400
Librarian, pedagogical library.....	1,240	\$ 2,540
Assistant librarian, pedagogical library.....	900	\$ 1,325
Six clerical assts. to supt. and assoc. supts., Class C-D.....	1,375	\$ 2,000
Eight clerical assts. to supt. and assoc. supts., Class A-B.....	900	\$ 1,325
Eight clerical assts. to dist. supts., Class C-D.....	1,375	\$ 2,000
Clerical asst. to dir. of compulsory ed., Class C-D.....	1,375	\$ 2,000
Eight clerical assts. to dir. of compulsory ed., Class C.....	1,375	† 1,615
Twenty clerical assts. to dir. of compulsory ed., Class A-B.....	900	\$ 1,325
Eight clerical assts. to other directors, Class C-D.....	1,375	\$ 2,000
Ten clerical assts. to other directors, Class A-B.....	900	\$ 1,325
Secretary's office:		
Secretary.....		6,500
Asst. secretary and asst. solicitor.....		4,500
One clerk.....		3,000
Two clerks, each.....		2,600
Two clerks, each.....		1,800
One clerk.....		1,600
One clerk.....		1,500
Two clerks, each.....		1,200
Three notice servers, each.....		1,400
Clerical assistant.....		2,000
Clerical assistant.....		1,495
Clerical assistant.....		1,325
Clerical assistant.....		1,325
Two clerical assistants, each.....		1,225
Two clerical assistants, each.....		1,125
Office boy.....		480
Buildings:		
Superintendent.....		6,000
Assistant superintendent.....		4,000
Chief draftsman.....		4,000
Assistant draftsman.....		3,000
Structural engineer.....		3,500
Mechanical engineer.....		2,500
Electrical engineer.....		2,200
Mechanical assistant.....		2,000
Mechanical assistant.....		1,500
Detail draftsman.....		2,500
Two general draftsmen, each.....		2,000
General draftsman.....		1,800
Two general draftsmen, each.....		1,500

* Ten years.

† Five years.

PHILADELPHIA, PA.—continued.

Buildings—Continued.	
Photographer.....	\$1,500
Five inspectors, each.....	2,100
Clerical assistant.....	1,495
Clerical assistant.....	1,325
Clerical assistant.....	945
School treasurer:	
Chief clerk.....	1,000
Three clerks, each.....	1,320
Clerk.....	300
School controller:	
School controller.....	4,000
Chief accountant.....	1,000
Chief tax auditor.....	1,000
Four clerks, each.....	1,980
One clerk.....	1,485
One clerk.....	1,320
Eleven clerks, each.....	330
Receiver of taxes:	
Chief clerk.....	1,000
One clerk.....	1,430
Nine clerks, each.....	1,320
Eleven clerks, each.....	1,210
Extra services.....	1,000
Supplies:	
Superintendent.....	4,000
Assistant superintendent.....	2,400
Clerk.....	2,000
Clerk.....	1,900
Clerk.....	1,700
Two clerical assistants, each.....	1,495
Three clerical assistants, each.....	1,325
One clerical assistant.....	1,225
Storehouse:	
Foreman.....	2,000
Assistant foreman.....	1,800
One packer and shipper.....	1,400
Three packers and shippers, each.....	1,300
Three packers and shippers, each.....	1,200
Clerical assistant.....	1,035
Warehouse:	
Custodian.....	1,450
Two chauffeurs, each.....	1,300
Janitor.....	850
Outside force:	
Four inspectors, each.....	1,800
Piano tuner.....	1,300

PITTSBURGH, PA.

Superintendent of schools.....	12,000
Four associate superintendents, each.....	5,000
Executive secretary for superintendent....	2,600
Stenographer for superintendent.....	1,440
Stenographer for superintendent.....	1,200
Three stenographers for assoc. supts., each..	1,200
Two stenographers for assoc. supts., each...	1,440
Clerk for superintendent.....	1,200
Director of—	
Special schools and extension work....	4,000
Art.....	4,000
Kindergartens.....	4,000
Hygiene.....	6,000

* Fifteen years.

Salaries in detail for cities of over 100,000 population—Continued.

PITTSBURGH, PA.—continued.

Director of—Continued.

Music.....	\$4,000
Research and measurement.....	4,000
Primary supervision.....	4,000
Nature study and school gardens.....	4,000
Writing and commercial work.....	4,000
Household economy.....	4,000
Compulsory attendance.....	4,000
Vocational guidance. (Filled by high-school principal.)	

Clerks to directors:

Secy. to director of special schools.....	1,440.00
Two clerks to other directors, each...	1,115.62
Clerk to other directors.....	918.75
Two clerks to other directors, each...	750.00
Clerk to other directors.....	1,000.00
Clerk to other directors.....	1,500.00
Clerk to other directors.....	2,500.00
Clerk to other directors.....	1,500.00

One supervisor of art.....	1,950
Two supervisors of art, each.....	2,300
Nine supervisors of art, each.....	2,400
One supervisor of kindergartens.....	2,300
One supervisor of hygiene.....	2,100
One supervisor of hygiene.....	2,200
Four supervisors of hygiene, each.....	2,400
One supervisor of hygiene.....	2,450
Five supervisors of hygiene, each.....	2,600

Payment to city of Pittsburgh, department of health, for inspectors' service and nurses..... 38,963

Eight dental operators, each.....	1,000
Eight dental clinic assistants, each.....	520
Medical examiner (new child-labor law)...	3,000
Chief, psychological clinic.....	3,000
Assistant, psychological clinic.....	1,440
Matron and clerk, clinics.....	1,020
Chief, tuberculosis X-ray clinic.....	2,400
Laboratory assistant.....	900
One supervisor of music.....	2,100
One supervisor of music.....	2,200
Seven supervisors of music, each.....	2,400
Three supervisors of music, each.....	2,600
Supervisor of writing and commercial work.	2,000
Supervisor of writing and commercial work.	2,100
Supervisor of writing and commercial work.	2,300
Six supervisors of writing and commercial work, each.....	2,400
Four supervisors of household economy, each	2,400
Supervisor of manual training.....	3,600
Supervisor of manual training.....	3,410
Supervisor of manual training.....	3,100

Vocational guidance:

Field secretary (man).....	2,600
Field secretary (man).....	2,300
Field secretary (woman).....	2,000
Field secretary (woman).....	1,500
Two assistant placement secretaries, each.....	1,350
Eleven high-school counsellors for Saturday work, each.....	300
Twenty-six truant officers, each.....	1,300
Six truant-officer supervisors, each.....	1,420

PITTSBURGH, PA.—continued.

Secretary's office:

Secretary.....	\$5,000
Chief clerk and paymaster.....	2,970
Stenographer, board.....	1,440
Stenographer and cashier.....	1,584
Assistant secretary.....	2,970
Chief accountant and statistician.....	4,000
General accountant.....	1,680
Cost accountant.....	1,680
Accountant for disbursements.....	2,640
Chief voucher and pay roll clerk.....	1,416
Stenographer and clerk.....	1,140
Statistical clerk.....	1,224
Stenographer and clerk.....	1,015
Stores-distribution clerk.....	1,296
Machine operator for individual pay checks.....	1,125
Retirement system bookkeeper, shop clerk.....	1,296
Shop clerk.....	1,125
Accountant for retirement system.....	2,100

Controller's department:

School controller.....	4,000
Auditor.....	3,600
Bond clerk.....	2,200
Auditing clerk.....	1,800
Retirement clerk.....	1,500

Legal department:

Solicitor.....	5,000
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Building department:

Superintendent of buildings.....	6,000
Chief clerk.....	2,500
Stenographer and clerk (superintendent's).....	1,500
Assistant superintendent.....	4,500
Building supervisor.....	3,300
Assistant to building supervisor.....	2,400
Engineer clerk.....	1,080
Draftsman.....	1,800
Draftsman.....	2,040
Engineer.....	2,400
Chief draftsman.....	3,000
Chief inspector.....	2,400
Chief clerk.....	2,000
Stenographer and clerk.....	1,500
Clerk.....	980

Supply department:

Superintendent of supplies.....	6,000
Assistant superintendent.....	3,000
Inspector, supplies and services.....	1,800
Chief clerk.....	2,000
Clerk.....	1,224
Clerk.....	1,296
Clerk.....	1,296
Typist and clerk.....	1,125
Stenographer and file clerk.....	1,125
Clerk.....	1,224
Storekeeper.....	1,932
Assistant, storeroom.....	1,500
Two assistants, storeroom, each.....	1,200
Assistant, shop storeroom.....	1,300
Three truck drivers, each.....	1,352

Salaries in detail for cities of over 100,000 population—Continued.

PORTLAND, OREG.

Superintendent.....	\$7,000
Assistant superintendent.....	4,450
Assistant superintendent.....	4,200
Secretary.....	1,800
Record clerk.....	1,500
Stenographer.....	1,320
Stenographer.....	960
Garden supervisor.....	1,250
Physical training.....	3,900
Attendance officer.....	2,500
Assistant attendance officer.....	2,040
Assistant attendance officer.....	1,800
Assistant attendance officer.....	1,680
Attendance clerk.....	1,260
Business department:	
School clerk and business manager....	4,750
Assistant clerk.....	2,100
Cashier.....	1,980
Secretary.....	1,800
Statistician.....	1,620
Bookkeeper.....	1,500
Assistant bookkeeper.....	1,500
Assistant bookkeeper.....	1,260
Bill clerk.....	1,080
Timekeeper.....	1,200
Stenographer.....	1,440
Stenographer.....	1,380
Assistant bookkeeper.....	1,080
Stenographer.....	1,200
Telephone operator.....	1,080
Operation department:	
Purchasing agent.....	1,800
Assistant purchasing agent.....	1,380
Two stenographers, each.....	1,080
Superintendent of properties.....	4,200
General foreman.....	2,700
Supervisor of operation.....	2,400
Supervisor of grounds.....	2,280
Secretary.....	1,380
Stenographer.....	1,080
Storekeeper.....	1,800
Assistant storekeeper.....	1,320
Two bookkeepers, each.....	1,500
Clerk.....	1,320
Clerk.....	1,350
Truck driver.....	1,440
Truck helper.....	1,200
Two watchmen, each.....	1,380

PROVIDENCE, R. I.

Superintendent of schools.....	6,000
First assistant superintendent of schools...	4,500
Second assistant superintendent of schools.	3,250
Third assistant superintendent of schools..	2,750
Supervisor of—	
Primary schools.....	2,500
Special schools.....	2,500
Director of—	
Kindergartens.....	2,500
Industrial education and drawing.....	4,000
Five assistants, each.....	2,000
Music.....	3,500
Three assistants, each.....	2,000

PROVIDENCE, R. I.—continued.

Director of—Continued.	
Penmanship.....	\$2,000
Physical education.....	3,500
Two assistants, each.....	2,000
Vocational guidance.....	3,150
Assistant.....	2,200
Instructor in military training.....	2,000
Secretary of school committee.....	4,600
Purchasing agent (books and supplies)....	2,550
Truant officer.....	2,700
Supt., school property, including janitors..	2,600
Assistant superintendent of school property	1,872
Bookkeeper (secretary school committee	
office).....	2,100
Bookkeeper, assistant.....	1,400
Indexing and recording clerk.....	1,600
Stock clerk.....	2,000
Stock clerk.....	1,400
Stenographer (superintendent of schools)..	1,800
Two stenographers, each.....	1,100
One stenographer.....	676
One clerk.....	1,600
Two clerks, each.....	1,300
Two clerks, each.....	1,200
One clerk.....	1,000

READING, PA.

City superintendent of public schools.....	4,700
General supervisor (administrative).....	2,700
Supervisor of—	
Kindergartens and primary grades.....	1,700
Intermediate and grammar grades.....	1,700
Director of—	
Visual education.....	3,200
Practical arts.....	2,050
Physical education.....	2,350
Medical inspection.....	1,150
Medical inspection.....	1,150
One assistant.....	800
Three assistants, each (3 mos.).....	240
Dentist.....	800
Four nurses, each.....	970
Music.....	2,000
Supervisor of—	
Drawing.....	1,850
Writing.....	1,250
Home economics.....	1,500
Child welfare.....	1,850
Special teacher in music.....	1,650
Special teacher in music.....	1,250
Special teacher in physical training.....	1,300
Special teacher in drawing.....	1,900
Special teacher.....	1,500
Special teacher.....	1,450
Special teacher.....	1,300
Special teacher in sewing.....	1,300
Special teacher in sewing.....	1,050
Special teacher in cooking.....	1,250
Two special teachers in cooking, each.....	1,200
Two attendance officers, each.....	1,475
Superintendent of buildings.....	2,000
Superintendent of supplies.....	1,325
Stenographer.....	960

Salaries in detail for cities of over 100,000 population—Continued.

SPRINGFIELD, MASS.—continued.

Supervisor of—Continued.

Manual arts (this in addition to regular salary as head of department in high school).....	\$500
Director of psychological laboratory (two-fifth time).....	1,770
Visiting teacher.....	1,800
Director of evening-school extension (this in addition to regular salary as head of department in high school).....	700
Assistant (in charge of immigrant education).....	2,000
Chief clerk.....	2,800
Bookkeeper.....	1,400
Two clerks, each.....	1,400
Stenographer.....	1,200
Two clerks, each.....	1,200
Two clerks, each.....	1,000
One clerk.....	900
Attendance officer.....	2,300
Two assistant attendance officers, each....	1,900
One assistant attendance officer.....	1,800
One assistant attendance officer.....	1,500

ST. LOUIS, MO.

Superintendent of instruction.....	8,000
Two assistant superintendents, each.....	5,000
Three assistant superintendents, each.....	6,000
One assistant superintendent (principal, Harris Teachers' College).....	6,000
One assistant superintendent.....	4,500
Chief clerk.....	2,500
Teachers' clerk.....	2,300
One stenographer.....	1,500
One stenographer.....	1,400
One stenographer.....	1,300
Five stenographers, each.....	1,200
Messenger.....	600
Chief attendance officer.....	4,000
One assistant attendance officer.....	1,600
Nineteen assistant attendance officers, each	1,900
Clerk.....	1,400
Director of hygiene.....	5,000
Supervisor of hygiene.....	2,550
Three inspectors, each.....	1,900
Two inspectors, each.....	2,100
Nine inspectors, each.....	2,300
Supervisor of nurses.....	1,750
Two nurses, each.....	1,200
Four nurses, each.....	1,300
Two nurses, each.....	1,400
One nurse.....	1,500
Fourteen nurses, each.....	1,600
Two nurses, each.....	1,920
Director of psychoeducational clinic.....	4,300
Clerk.....	1,500
Supervisor of—	
Continuation schools.....	4,100
Drawing and manual arts.....	5,000
Educational extension.....	4,300
Kindergarten.....	4,000
Penmanship.....	4,000
Music.....	4,000
Physical training.....	4,000
Primary (3), each.....	3,400

ST. LOUIS, MO.—continued.

Supervisor of—Continued.

School gardens.....	\$2,950
Special schools.....	2,600
Assistant supervisor of—	
Drawing (3), each.....	1,900
Drawing (1).....	2,000
Drawing (4), each.....	2,300
Music (3), each.....	1,900
Music (2), each.....	2,100
Music (6), each.....	2,300
School orchestras.....	3,200
Penmanship.....	2,200
Physical training (1).....	2,000
Physical training (2), each.....	2,100
Physical training (1).....	2,200
Physical training (4), each.....	2,300
Physical training (1).....	2,500
School gardens.....	1,700
Building department:	
Superintendent of buildings.....	7,500
Stenographer.....	2,000
Stenographer.....	1,465
Chief clerk.....	3,210
Clerk, first rank.....	2,000
Clerk, second rank.....	1,672
Clerk, third rank.....	1,405
Messenger.....	806
Chief engineer.....	4,000
Superintendent of construction.....	3,210
Superintendent of heating and ventilation.....	2,555
Superintendent of heating repairs.....	2,555
Superintendent of plumbing.....	3,290
Superintendent of electric work.....	2,922
Superintendent of janitors.....	2,922
Superintendent of shops and repairs....	3,510
Shops, head clerk.....	1,895
Shops, stock clerk.....	1,495
Shops, second clerk.....	1,465
Three building superintendents, each..	2,010
Two draftsmen, each.....	2,700
Landscape gardener.....	2,922
Meter reader.....	1,750
Head garage man and chauffeur.....	2,249
Second garage man.....	1,563
Truck driver (shops).....	1,591
Supply department:	
Superintendent of supplies.....	6,000
Assistant to superintendent of supplies	3,106
Stenographer.....	1,500
Cashier.....	1,380
Inspector of supplies.....	2,400
Clerk, first rank.....	2,100
Clerk, second rank.....	1,920
Clerk, third rank.....	1,740
Clerk, fourth rank.....	1,560
Clerk, fifth rank.....	1,380
Clerk, sixth rank.....	1,200
Messenger.....	720
Auditing department:	
Auditor.....	5,000
Chief clerk.....	3,200
Clerk, first rank.....	2,300
Clerk, second rank.....	1,950
Clerk, third rank.....	1,675

Salaries in detail for cities of over 100,000 population—Continued.

SAN ANTONIO, TEX.

Superintendent.....	\$6,000
Assistant superintendent.....	3,534
Business manager.....	3,600
Superintendent of buildings.....	1,782
Secretary to superintendent.....	1,506
Bookkeeper.....	1,770
Two stenographers, each.....	1,200
Physician (9 months).....	900
Dentist (9 months).....	900
Nurse (9 months).....	1,237
Nurse (9 months).....	1,089
Nurse (9 months).....	990
Two attendance officers, each.....	1,800
Boards' attorney.....	600
Two supervisors, grammar and primary, each.....	2,214
Three supervisors, music, art and phy. ed., each.....	1,950

SAN FRANCISCO, CALIF.

Superintendent.....	4,000
Five deputy superintendents, each.....	3,600
Secretary.....	2,220
Stenographer.....	1,920
Messenger clerk.....	1,800
Chief attendance bureau.....	1,800

SCRANTON, PA.

Superintendent of schools.....	6,000
Supervisor of—	
Drawing.....	1,890
Drawing.....	1,770
Drawing.....	1,650
Music.....	2,150
Music.....	1,770
Sewing.....	1,890
Sewing.....	1,870
Sewing.....	1,550
Primary grades.....	2,290
Penmanship.....	1,990
Kindergartens.....	2,010
One attendance officer.....	1,800
Three attendance officers, each.....	1,500
One attendance officer.....	1,200
Health inspector.....	1,800
Secretary of school board.....	3,600
Superintendent of buildings and supplies...	3,600
Superintendent's secretary.....	1,800

SEATTLE, WASH.

Superintendent.....	10,000
Three assistant superintendents, each.....	5,100
Head of dept. of method for grammar grades.	3,840
Head of dept. of method for primary grades.	3,300
Supervisor of—	
Drawing.....	3,000
Garden work.....	3,300
Home economics (2), each.....	2,760
Manual arts.....	3,000
Music (2), each.....	2,760
Music.....	2,400
Music.....	2,100
Penmanship.....	2,940
Physical education (4), each.....	2,760
Attendance.....	3,000

SEATTLE, WASH.—continued.

Director of—	
Vocational guidance.....	\$4,200
Home economics.....	3,660
Manual training.....	3,660
Music.....	3,660
Orchestras.....	2,580
Physical education.....	3,660
Two coordinators with vocational guidance, each.....	2,760
Three attendance officers, each.....	2,200
Home visitor.....	1,620
Comptroller.....	3,900
Bookkeeper.....	2,100
One clerk.....	1,800
One clerk.....	1,680
One clerk.....	1,500
Two clerks, each.....	1,320
One clerk.....	1,200
One clerk.....	2,400
Two stenographers, each.....	1,440
Two stenographers, each.....	1,320
Two stenographers, each.....	1,140
Three stenographers, each.....	1,080

SPOKANE, WASH.

Superintendent of schools.....	5,800
Secretary of board.....	3,000
Assistant secretary of board.....	2,400
Superintendent of buildings and grounds..	2,800
Accountant.....	2,400
Secretary to superintendent.....	2,400
Superintendent's assistant.....	2,250
Supervisor of—	
Drawing.....	2,550
Music.....	2,550
Writing and evening school.....	2,450
Household arts.....	2,250
Physical training (2), each.....	2,250
Manual training.....	2,250
Health.....	3,400
Attendance officer.....	1,800
Four stenographers, each.....	1,380
One stenographer.....	1,260
One stenographer.....	1,140
One stenographer.....	1,080

SPRINGFIELD, MASS.

Superintendent.....	5,800
Assistant superintendent.....	3,500
Secretary to superintendent.....	1,650
Supervisor of—	
Art and hand work.....	3,175
Assistant.....	2,200
Assistant.....	2,050
Assistant.....	1,950
Assistant.....	1,870
Assistant.....	1,630
Music.....	3,175
Assistant.....	2,250
Assistant.....	1,800
Nature study.....	2,275
Assistant.....	1,950
Physical education.....	2,975
Two assistants, each.....	1,800
Home economics.....	2,700

Salaries in detail for cities of over 100,000 population—Continued.

TRENTON, N. J.—continued.

One nurse.....	\$1,200
Three nurses, each.....	1,150
One nurse.....	1,100
One nurse.....	1,050
Dentist.....	1,650
Extension education director.....	4,500
Clerk.....	720
Two attendance officers, each.....	1,500
One attendance officer.....	1,300
Three attendance officers, each.....	1,200
Two attendance officers, each.....	1,100
One attendance officer.....	700
Supervisor of working papers.....	1,220
School psychologist.....	2,300
Continuation-school director.....	800
Business manager.....	3,500
Clerk.....	1,800
Secretary board of education.....	3,000
Assistant secretary, board of education....	2,000

WASHINGTON, D. C.

Superintendent.....	6,000
Two assistant superintendents, each.....	3,750
Director, intermediate instruction.....	2,900
Director, primary instruction.....	2,900
Thirteen district principals, each.....	2,900
Secretary.....	2,000
Financial clerk.....	2,000
One clerk.....	1,600
Two clerks, each.....	1,500
One clerk.....	1,400
Three clerks, each.....	1,000
One clerk.....	900
Two stenographers, each.....	1,000
Two messengers, each.....	720
Supervisor of—	
Domestic art.....	2,000
Domestic science.....	2,500
Drawing.....	2,500
Penmanship.....	2,400
Physical training.....	2,500
Manual training.....	2,900
Music.....	2,500

WILMINGTON, DEL.

Superintendent.....	6,000
Assistant superintendent.....	3,000
Director of vocational education.....	4,500
Clerk, office of vocational education.....	1,200
Clerk, office of Americanization department	1,200
Supervisor of—	
Americanization classes.....	3,000
Sewing.....	2,000
Music.....	2,000
Art.....	2,000
Nature study.....	1,800
Physical education.....	1,500
Chief attendance officer.....	1,500
Two assistant attendance officers, each....	1,150
Medical inspector.....	1,500

* Plus \$240 bonus.

WILMINGTON, DEL.—continued.

Three nurses, each.....	\$1,200
Clerk, superintendent's office.....	1,200
Secretary, board of education.....	2,500
Clerk, office board of education.....	1,400
Clerk, office board of education.....	1,000
Supervisor of buildings.....	2,500
Chief engineer.....	2,500

WORCESTER, MASS.

Superintendent of schools.....	6,000
Two assistant superintendents, each.....	4,600
One assistant superintendent.....	4,250
Director of—	
Drawing.....	3,250
Home economics.....	2,000
Kindergarten.....	1,800
Manual training.....	3,250
Music.....	3,250
Physical training.....	3,250
Writing.....	2,000
Agriculture.....	3,250
Two supervisors of Americanization and evening practical arts, each.....	1,700
Business manager and clerk of school committee.....	4,600
Chief attendance officer.....	2,100
Supervisor of attendance.....	2,100
Chief clerk, superintendent's office.....	2,000
First assistant clerk, superintendent's office	1,400
Chief clerk, business manager's office.....	2,200
First assistant clerk, business manager's office.....	1,387
Stenographer.....	1,200
Stenographer.....	1,150
Stenographer.....	900
Stenographer.....	825
Clerk, attendance officers.....	918
Inspector of schoolhouses and supervisor of janitors.....	2,125
Director of school hygiene.....	2,500

YOUNGSTOWN, OHIO.

Superintendent.....	9,000
Assistant superintendent.....	4,500
Director of schools.....	5,000
Clerk-treasurer.....	2,700
Assistant clerk.....	2,220
Secretary.....	1,320
Secretary.....	1,200
Secretary, substitute (per month).....	70
Supervisor of—	
Drawing.....	2,830
Music.....	2,375
Kindergarten and primary.....	3,000
Penmanship.....	2,375
Domestic science and arts.....	2,250
Manual training.....	2,975
Physical education and hygiene.....	3,300
Assistant supervisor of—	
Physical training.....	2,850
Music.....	2,000
Four attendance officers, each.....	1,600

* Plus \$120 bonus.

DEPARTMENT OF THE INTERIOR
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BULLETIN, 1921, No. 31

MONTHLY RECORD
OF CURRENT EDUCATIONAL
PUBLICATIONS

INDEX

FEBRUARY, 1920—JANUARY, 1921



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MONTHLY RECORD OF CURRENT EDUCATIONAL PUBLICATIONS: INDEX, FEBRUARY, 1920—JANUARY, 1921.

INTRODUCTORY NOTE.

The present bulletin constitutes a complete author and subject index to the 2,380 entries contained in the 10 numbers of the Monthly Record of Current Educational Publications issued from February, 1920, to January, 1921, inclusive. The record was published each month during this period, with the exception of July and August. The references in the index are to the item numbers which run consecutively through the 10 issues of the record for the year.

This bulletin is designed to serve institutions and persons desiring to preserve a permanent bibliography of educational literature for 1920, which may be formed by binding the 10 numbers of the Monthly Record for the year with the index here presented.

[The numbers refer to item, not to page. Names of persons about whom articles or books are written and references to subjects, are printed in small capitals.]

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DEPARTMENT OF THE INTERIOR
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THE
REORGANIZATION OF MATHEMATICS
IN SECONDARY EDUCATION

A SUMMARY OF THE REPORT BY
THE NATIONAL COMMITTEE ON
MATHEMATICAL REQUIREMENTS



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THE NATIONAL COMMITTEE ON MATHEMATICAL REQUIREMENTS.

(Under the auspices of The Mathematical Association of America.)

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¹ Prof. Moore took the place vacated in 1918 by the resignation of Oswald Veblen, Princeton University.

² Mr. Downey took the place vacated in 1919 by the resignation of G. W. Evans, Charlestown High School, Boston, Mass.

³ Until July, 1921, of the Crane Technical High School, Chicago, Ill.

INTRODUCTION.

The National Committee on Mathematical Requirements was organized in the late summer of 1916 under the auspices of the Mathematical Association of America for the purpose of giving national expression to the movement for reform in the teaching of mathematics, which had gained considerable headway in various parts of the country, but which lacked the power that coordination and united effort alone could give.

The original nucleus of the committee, appointed by Prof. E. R. Hedrick, then president of the association, consisted of the following: A. R. Crathorne, University of Illinois; E. H. Moore, University of Chicago; D. E. Smith, Columbia University; H. W. Tyler, Massachusetts Institute of Technology; Oswald Veblen, Princeton University; and J. W. Young, Dartmouth College, chairman. This committee was instructed to add to its membership so as to secure adequate representation of secondary school interests, and then to undertake a comprehensive study of the whole problem concerned with the improvement of mathematical education and to cover the field of secondary and collegiate mathematics.

This group held its first meeting in September, 1916, at Cambridge, Mass. At that meeting it was decided to ask each of the three large associations of secondary school teachers of mathematics (The Association of Teachers of Mathematics in New England, The Association of Teachers of Mathematics in the Middle States and Maryland, and the Central Association of Science and Mathematics Teachers) to appoint an official representative on the committee. At this time also a general plan for the work of the committee was outlined and agreed upon.

In response to the request above referred to the following were appointed by the respective associations: Miss Vevia Blair, Horace Mann School, New York, N. Y., representing the Middle States and Maryland association; G. W. Evans, Charlestown High School, Boston, Mass., representing the New England association;¹ and J. A. Foberg, Crane Technical High School, Chicago, Ill., representing the central association.

At later dates the following members were appointed: A. C. Olney, commissioner of secondary education, Sacramento, Calif.; Raleigh Schorling, The Lincoln School, New York City; P. H. Underwood, Ball High School, Galveston, Tex.; and Miss Eula A. Weeks, Cleveland High School, St. Louis, Mo.

From the very beginning of its deliberations the committee felt that the work assigned to it could not be done effectively without adequate financial support. The wide geographical distribution of its membership made a full attendance at meetings of the committee difficult if not impossible without financial resources sufficient to defray the traveling expenses of members, the expenses of clerical assistance, etc. Above all, it was felt that, in order to give to the ultimate recommendations of the committee the authority and effectiveness which they should have, it was necessary to arouse the interest and secure the active cooperation of teachers, administrators, and organizations throughout the country—that the work of the committee should represent a cooperative effort on a truly national scale.

For over two years, owing in large part to the World War, attempts to secure adequate financial support proved unsuccessful. Inevitably also the war interfered with the committee's work. Several members were engaged in war work² and the others were carrying extra burdens on account of such work carried on by their colleagues.

¹ Mr. Evans resigned in the summer of 1919, owing to an extended trip abroad; his place was taken by W. F. Downey, English High School, Boston, Mass.

² Prof. Veblen resigned in 1917 on account of the pressure of his war duties. His place was taken on the committee by Prof. C. N. Moore, University of Cincinnati.

In the spring of 1919, however, and again in 1920, the committee was fortunate in securing generous appropriations from the General Education Board of New York City for the prosecution of its work.²

This made it possible greatly to extend the committee's activities. The work was planned on a large scale for the purpose of organizing a truly nation-wide discussion of the problems facing the committee, and J. W. Young and J. A. Foberg were selected to devote their whole time to the work of the committee. Suitable office space was secured and adequate stenographic and clerical help was employed.

The results of the committee's work and deliberations are presented in the following report. A word as to the methods employed may, however, be of interest at this point. The committee attempted to establish working contact with all organizations of teachers and others interested in its problems and to secure their active assistance. Nearly 100 such organizations have taken part in this work. A list of these organizations will be found in the complete report of the committee. Provisional reports on various phases of the problem were submitted to these cooperating organizations in advance of publication, and criticisms, comments, and suggestions for improvement were invited from individuals and special cooperating committees. The reports previously published for the committee by the United States Bureau of Education³ and in *The Mathematics Teacher*⁴ and designated as "preliminary" are the result of this kind of cooperation. The value of such assistance can hardly be overestimated and the committee desires to express to all individuals, organizations, and educational journals that have taken part its hearty appreciation and thanks. The committee believes it is safe to say, in view of the methods used in formulating them, that the recommendations of this final report have the approval of the great majority of progressive teachers throughout the country.

No attempt has been made in this report to trace the origin and history of the various proposals and movements for reform nor to give credit either to individuals or organizations for initiating them. A convenient starting point for the history of the modern movement in this country may be found in E. H. Moore's presidential address before the American Mathematical Society in 1902.⁵ But the movement here is only one manifestation of a movement that is world-wide and in which very many individuals and organizations have played a prominent part. The student interested in this phase of the subject is referred to the extensive publications of the International Commission on the Teaching of Mathematics, to the *Bibliography of the Teaching of Mathematics, 1900-1912*, by D. E. Smith and C. Goldziher (U. S. Bur. of Educ., Bull., 1912, No. 29) and to the bibliography (since 1912) to be found in the complete report of the national committee (Ch. XVI).

The national committee expects to maintain its office, with a certain amount of clerical help, during the year 1921-22 and perhaps for a longer period. It is hoped that in this way it may continue to serve as a clearing house for all activities looking to the improvement of the teaching of mathematics in this country, and to assist in bringing about the effective adoption in practice of the recommendations made in the following report, with such modifications of them as continued study and experimentation may show to be desirable.

² Again in Nov., 1921, the General Education Board made appropriations to cover the expense of publishing and distributing the complete report of the committee and to enable the committee to carry on certain phases of its work during the year 1922.

³ *The Reorganization of the First Courses in Secondary School Mathematics*, U. S. Bureau of Education, Secondary School Circular, No. 5, February, 1920. 11 pp. *Junior High School Mathematics*, U. S. Bureau of Education, Secondary School Circular, No. 6, July, 1920. 10 pp. *The Function Concept in Secondary School Mathematics*, Secondary School Circular No. 8, June, 1921. 10 pp.

⁴ *Terms and Symbols in Elementary Mathematics*, *The Mathematics Teacher*, 14: 107-118, March, 1921. *Elective Courses in Mathematics for Secondary Schools*, *The Mathematics Teacher*, 14: 161-170, April, 1921. *College Entrance Requirements in Mathematics*, *The Mathematics Teacher*, 14: 224-245, May, 1921.

⁵ E. H. Moore: *On the Foundations of Mathematics*, *Bulletin of the American Mathematical Society*, vol. 9 (1902-3), p. 402; *Science*, 17: 401.

THE REORGANIZATION OF MATHEMATICS IN SECONDARY EDUCATION.

Chapter I.

A BRIEF OUTLINE OF THE REPORT.

The present chapter gives a brief general outline of the contents of this pamphlet for the purpose of orienting the reader and making it possible for him to gain quickly an understanding of its scope and the problems which it considers.

The valid aims and purposes of instruction in mathematics are considered in Chapter II. A formulation of such aims and a statement of general principles governing the committee's work is necessary as a basis for the later specific recommendations. Here will be found the reasons for including mathematics in the course of study for all secondary school pupils.

To the end that all pupils in the period of secondary education shall gain early a broad view of the whole field of elementary mathematics, and, in particular, in order to insure contact with this important element in secondary education on the part of the very large number of pupils who, for one reason or another, drop out of school by the end of the ninth year, the national committee recommends emphatically that the course of study in mathematics during the seventh, eighth, and ninth years contain the fundamental notions of arithmetic, of algebra, of intuitive geometry, of numerical trigonometry and at least an introduction to demonstrative geometry, and that this body of material be required of all secondary school pupils. A detailed account of this material is given in Chapter III. Careful study of the later years of our elementary schools, and comparison with European schools, have shown the vital need of reorganization of mathematical instruction, especially in the seventh and eighth years. The very strong tendency now evident to consider elementary education as ceasing at the end of the sixth school year, and to consider the years from the seventh to the twelfth inclusive as comprising years of secondary education, gives impetus to the movement for reform of the teaching of mathematics at this stage. The necessity for devising courses of study for the new junior high school, comprising the years seven, eight, and nine, enables us to

present a body of materials of instruction, and to propose organizations of this material that will be valid not only for junior high schools conducted as separate schools, but also for years seven and eight in the traditional eight-year elementary school and the first year of the four-year high school.

While Chapter III is devoted to a consideration of the body of material of instruction in mathematics that is regarded as of sufficient importance to form part of the course of study for all secondary school pupils, Chapter IV is devoted to consideration of the types of material that properly enter into courses of study for pupils who continue their study of mathematics beyond the minimum regarded as essential for all pupils. Here will be found recommendations concerning the traditional subject matter of the tenth, eleventh, and twelfth school years, and also certain material that heretofore has been looked upon in this country as belonging rather to college courses of study; as, for instance, the elementary ideas and processes of the calculus.

Chapter V is devoted to a study of the types of secondary school instruction in mathematics that may be looked upon as furnishing the best preparation for successful work in college. This study leads to the conclusion that there is no conflict between the needs of those pupils who ultimately go to college and those who do not. Certain very definite recommendations are made as to changes that appear desirable in the statement of college-entrance requirements and in the type of college-entrance examination.

Chapter VI contains lists of propositions and constructions in plane and in solid geometry. The propositions are classified in such a way as to separate from others of less importance those which are regarded as so fundamental that they should form the common minimum of any standard course in the subject. This chapter has close connection with the two chapters which immediately precede it.

The statement previously made in our preliminary reports and repeated in Chapter II, that the function concept should serve as a unifying element running throughout the instruction in mathematics of the secondary school, has brought many requests for a more precise definition of the rôle of the function concept in secondary school mathematics. Chapter VII is intended to meet this demand.

Recommendations as to the adoption and use of terms and symbols in elementary mathematics are contained in Chapter VIII. It is intended to present a norm embodying agreement as to best current practice. It will tend to restrict the irresponsible introduction of new terms and symbols, but it does not close the door entirely on innovations that may from time to time prove serviceable and desirable.

The chapters of the complete report thus far referred to appear in full in this summary. The remaining chapters of the complete report give for the most part the results of special investigations prepared for the national committee. The contents of these chapters are indicated sufficiently at the end of the present summary to enable the reader to decide whether or not he is interested in the studies mentioned, and whether or not he desires the complete report.

Copies of the complete report of the national committee, which will probably be ready for distribution in the spring of 1922, may be had, free of charge, upon application addressed to the chairman, Prof. J. W. Young, Hanover, N. H.

Chapter II.

AIMS OF MATHEMATICAL INSTRUCTION—GENERAL PRINCIPLES.

I. INTRODUCTION.

A discussion of mathematical education, and of ways and means of enhancing its value, must be approached first of all on the basis of a precise and comprehensive formulation of the valid aims and purposes of such education.¹ Only on such a basis can we approach intelligently the problems relating to the selection and organization of material, the methods of teaching and the point of view which should govern the instruction, and the qualifications and training of the teachers who impart it. Such aims and purposes of the teaching of mathematics, moreover, must be sought in the nature of the subject, the rôle it plays in the practical, intellectual, and spiritual life of the world, and in the interests and capacities of the students.

Before proceeding with the formulation of these aims, however, we may properly limit to some extent the field of our enquiry. We are concerned primarily with the period of secondary education—comprising, in the modern junior and senior high schools, the period beginning with the seventh and ending with the twelfth school year, and concerning itself with pupils ranging in age normally from 12 to 18 years. References to the mathematics of the grades below the seventh (mainly arithmetic) and beyond the senior high school will be only incidental.

Furthermore, we are primarily concerned at this point with what may be described as “general” aims, that is to say aims which are valid for large sections of the school population and which may properly be thought of as contributing to a general education as distinguished from the specific needs of vocational, technical, or professional education.

II. THE AIMS OF MATHEMATICAL INSTRUCTION.

With these limitations in mind we may now approach the problem of formulating the more important aims that the teaching of mathematics should serve. It has been customary to distinguish three

¹ Reference may here be made to the formulation of the principal aims in education to be found in the *Cardinal Principles of Secondary Education*, published by the U. S. Bureau of Education as Bulletin No. 55, 1918. The main objectives of education are there stated to be: 1. Health; 2. Command of fundamental processes; 3. Worthy home membership; 4. Vocation; 5. Citizenship; 6. Worthy use of leisure; 7. Ethical character. These objectives are held to apply to all education—elementary, secondary, and higher—and all subjects of instruction are to contribute to their achievement.

classes of aims: (1) Practical or utilitarian, (2) disciplinary, (3) cultural; and such a classification is indeed a convenient one. It should be kept clearly in mind, however, that the three classes mentioned are not mutually exclusive and that convenience of discussion rather than logical necessity often assigns a given aim to one or the other of the classes. Indeed any truly disciplinary aim is practical, and in a broad sense the same is true of cultural aims.

Practical aims.—By a practical or utilitarian aim, in the narrower sense, we mean then the immediate or direct usefulness in life of a fact, method or process in mathematics.

1. The immediate and undisputed utility of the fundamental processes of arithmetic in the life of every individual demands our first attention. The first instruction in these processes, it is true, falls outside the period of instruction which we are considering. By the end of the sixth grade the child should be able to carry out the four fundamental operations with integers and with common and decimal fractions accurately and with a fair degree of speed. This goal can be reached in all schools—as it is being reached in many—if the work is done under properly qualified teachers and if drill is confined to the simpler cases which alone are of importance in the practical life of the great majority. (See more specifically, Ch. III, pp. 7, 18.) Accuracy and facility in numerical computation are of such vital importance, however, to every individual that effective drill in this subject should be continued throughout the secondary school period, not in general as a separate topic, but in connection with the numerical problems arising in other work. In this numerical work, besides accuracy and speed, the following aims are of the greatest importance:

(a) A progressive increase in the pupil's understanding of the nature of the fundamental operations and power to apply them in new situations. The fundamental laws of algebra are a potent influence in this direction. (See 3, below.)

(b) Exercise of common sense and judgment in computing from approximate data, familiarity with the effect of small errors in measurements, the determination of the number of figures to be used in computing and to be retained in the result, and the like.

(c) The development of self-reliance in the handling of numerical problems, through the consistent use of checks on all numerical work.

2. Of almost equal importance to every educated person is an understanding of the language of algebra and the ability to use this language intelligently and readily in the expression of such simple quantitative relations as occur in every-day life and in the normal reading of the educated person.

Appreciation of the significance of formulas and ability to work out simple problems by setting up and solving the necessary equations

must nowadays be included among the minimum requirements of any program of universal education.

3. The development of the ability to understand and to use such elementary algebraic methods involves a study of the fundamental laws of algebra and at least a certain minimum of drill in algebraic technique, which, when properly taught, will furnish the foundation for an understanding of the significance of the processes of arithmetic already referred to. The essence of algebra as distinguished from arithmetic lies in the fact that algebra concerns itself with the operations upon numbers *in general*, while arithmetic confines itself to operations on *particular* numbers.

4. The ability to understand and interpret correctly graphical representations of various kinds, such as nowadays abound in popular discussions of current scientific, social, industrial, and political problems will also be recognized as one of the necessary aims in the education of every individual. This applies to the representation of statistical data, which is becoming increasingly important in the consideration of our daily problems, as well as to the representation and understanding of various sorts of dependence of one variable quantity upon another.

5. Finally, among the practical aims to be served by the study of mathematics should be listed familiarity with the geometric forms common in nature, industry, and life; the elementary properties and relations of these forms, including their mensuration; the development of space-perception; and the exercise of spatial imagination. This involves acquaintance with such fundamental ideas as congruence and similarity and with such fundamental facts as those concerning the sum of the angles of a triangle, the pythagorean proposition and the areas and volumes of the common geometric forms.

Among directly practical aims should also be included the acquisition of the ideas and concepts in terms of which the quantitative thinking of the world is done, and of ability to think clearly in terms of those concepts. It seems more convenient, however, to discuss this aim in connection with the disciplinary aims.

Disciplinary aims.—We would include here those aims which relate to mental training, as distinguished from the acquisition of certain specific skills discussed in the preceding section. Such training involves the development of certain more or less general characteristics and the formation of certain mental habits which, besides being directly applicable in the setting in which they are developed or formed, are expected to operate also in more or less closely related fields—that is, to “transfer” to other situations.

The subject of the transfer of training has for a number of years been a very controversial one. Only recently has there been any

evidence of agreement among the body of educational psychologists. We need not at this point go into detail as to the present status of disciplinary values since this forms the subject of a separate chapter in the complete report (Chap. IX; see also Chap. X). It is sufficient for our present purpose to call attention to the fact that most psychologists have abandoned two extreme positions as to transfer of training. The first asserted that a pupil trained to reason well in geometry would thereby be trained to reason equally well in any other subject; the second denied the possibility of any transfer, and hence the possibility of any general mental training. That the effects of training do transfer from one field of learning to another is now, however, recognized. The amount of transfer in any given case depends upon a number of conditions. If these conditions are favorable, there may be considerable transfer, but in any case the amount of transfer is difficult to measure. Training in connection with certain attitudes, ideals, and ideas is almost universally admitted by psychologists to have general value. It may, therefore, be said that, with proper restrictions, general mental discipline is a valid aim in education.

The aims which we are discussing are so important in the restricted domain of quantitative and spatial (i. e., mathematical or partly mathematical) thinking which every educated individual is called upon to perform that we do not need for the sake of our argument to raise the question as to the extent of transfer to less mathematical situations.

In formulating the disciplinary aims of the study of mathematics the following should be mentioned:

(1) The acquisition, in precise form, of those ideas or concepts in terms of which the quantitative thinking of the world is done. Among these ideas and concepts may be mentioned ratio and measurement (lengths, areas, volumes, weights, velocities, and rates in general, etc), proportionality and similarity, positive and negative numbers, and the dependence of one quantity upon another.

(2) The development of ability to think clearly in terms of such ideas and concepts. This ability involves training in—

(a) Analysis of a complex situation into simpler parts. This includes the recognition of essential factors and the rejection of the irrelevant.

(b) The recognition of logical relations between interdependent factors and the understanding and, if possible, the expression of such relations in precise form.

(c) Generalization; that is, the discovery, and formulation of a general law and an understanding of its properties and applications.

(3) The acquisition of mental habits and attitudes which will make the above training effective in the life of the individual. Among

such habitual reactions are the following: A seeking for relations and their precise expression; an attitude of enquiry; a desire to understand, to get to the bottom of a situation; concentration and persistence; a love for precision, accuracy, thoroughness, and clearness, and a distaste for vagueness and incompleteness; a desire for orderly and logical organization as an aid to understanding and memory.

(4) Many, if not all, of these disciplinary aims are included in the broad sense of the idea of relationship or dependence—in what the mathematician in his technical vocabulary refers to as a “function” of one or more variables. Training in “functional thinking,” that is thinking in terms of relationships, is one of the most fundamental disciplinary aims of the teaching of mathematics.

Cultural aims.—By cultural aims we mean those somewhat less tangible but none the less real and important intellectual, ethical, esthetic or spiritual aims that are involved in the development of appreciation and insight and the formation of ideals of perfection. As will be at once apparent the realization of some of these aims must await the later stages of instruction, but some of them may and should operate at the very beginning.

More specifically we may mention the development or acquisition of—

(1) Appreciation of beauty in the geometrical forms of nature, art, and industry.

(2) Ideals of perfection as to logical structure; precision of statement and of thought; logical reasoning (as exemplified in the geometric demonstration); discrimination between the true and the false, etc.

(3) Appreciation of the power of mathematics—of what Byron expressively called “the power of thought, the magic of the mind”²—and the rôle that mathematics and abstract thinking, in general, has played in the development of civilization; in particular in science, in industry, and in philosophy. In this connection mention should be made of the religious effect, in the broad sense, which the study of the permanence of laws in mathematics and of the infinite tends to establish.³

III. THE POINT OF VIEW GOVERNING INSTRUCTION.

The practical aims enumerated above, in spite of their vital importance, may without danger be given a secondary position in seeking to formulate the general point of view which should govern the

² D. E. Smith: Mathematics in the Training for Citizenship, Teachers College Record, vol. 18, May, 1917, p. 6.

³ For an elaboration of the ideas here presented in the barest outline, the reader is referred to the article by D. E. Smith already mentioned and to his presidential address before the Mathematical Association of America, Wellesley, Mass., Sept. 7, 1921.

teacher, provided only that they receive due recognition in the selection of material and that the necessary minimum of technical drill is insisted upon.

The primary purposes of the teaching of mathematics should be to develop those powers of understanding and of analyzing relations of quantity and of space which are necessary to an insight into and control over our environment and to an appreciation of the progress of civilization in its various aspects, and to develop those habits of thought and of action which will make these powers effective in the life of the individual.

All topics, processes, and drill in technique which do not directly contribute to the development of the powers mentioned should be eliminated from the curriculum. It is recognized that in the earlier periods of instruction the strictly logical organization of subject matter⁴ is of less importance than the acquisition, on the part of the pupil, of experience as to facts and methods of attack on significant problems, of the power to see relations, and of training in accurate thinking in terms of such relations. Care must be taken, however, through the dominance of the course by certain general ideas that it does not become a collection of isolated and unrelated details.

Continued emphasis throughout the course must be placed on the development of ability to grasp and to utilize ideas, processes, and principles in the solution of concrete problems rather than on the acquisition of mere facility or skill in manipulation. The excessive emphasis now commonly placed on manipulation is one of the main obstacles to intelligent progress. On the side of algebra, the ability to understand its language and to use it intelligently, the ability to analyze a problem, to formulate it mathematically, and to interpret the result must be dominant aims. *Drill in algebraic manipulation should be limited to those processes and to the degree of complexity required for a thorough understanding of principles and for probable applications either in common life or in subsequent courses which a substantial proportion of the pupils will take.* It must be conceived throughout as a means to an end, not as an end in itself. Within these limits, skill in algebraic manipulation is important, and drill in this subject should be extended far enough to enable students to carry out the essential processes accurately and expeditiously.

On the side of geometry the formal demonstrative work should be preceded by a reasonable amount of informal work of an intuitive, experimental, and constructive character. Such work is of great value in itself; it is needed also to provide the necessary familiarity with geometric ideas, forms, and relations, on the basis of which

⁴ "The logical from the standpoint of subject matter represents the goal, the last term of training, not the point of departure." Dewey, "How We Think," p. 62.

alone intelligent appreciation of formal demonstrative work is possible.

The one great idea which is best adapted to unify the course is that of the *functional relation*. The concept of a variable and of the dependence of one variable upon another is of fundamental importance to everyone. It is true that the general and abstract form of these concepts can become significant to the pupil only as a result of very considerable mathematical experience and training. There is nothing in either concept, however, which prevents the presentation of specific concrete examples and illustrations of dependence even in the early parts of the course. Means to this end will be found in connection with the tabulation of data and the study of the formula and of the graph and of their uses.

The primary and underlying principle of the course should be the idea of relationship between variables, including the methods of determining and expressing such relationship. The teacher should have this idea constantly in mind, and the pupil's advancement should be consciously directed along the lines which will present first one and then another of the ideas upon which finally the formation of the general concept of functionality depends. (For a more detailed discussion of these ideas see Chap. VII below.)

The general ideas which appear more explicitly in the course and under the dominance of one or another of which all topics should be brought are: (1) The formula, (2) graphic representation, (3) the equation, (4) measurement and computation, (5) congruence and similarity, (6) demonstration. These are considered in more detail in a later section of the report (Chaps. III and IV).

IV. THE ORGANIZATION OF SUBJECT MATTER.

"General" courses.—We have already called attention to the fact that, in the earlier periods of instruction especially, logical principles of organization are of less importance than psychological and pedagogical principles. In recent years there has developed among many progressive teachers a very significant movement away from the older rigid division into "subjects" such as arithmetic, algebra, and geometry, each of which shall be "completed" before another is begun, and toward a rational breaking down of the barriers separating these subjects, in the interest of an organization of subject matter that will offer a psychologically and pedagogically more effective approach to the study of mathematics.

There has thus developed the movement toward what are variously called "composite," "correlated," "unified," or "general" courses. The advocates of this new method of organization base their claims on the obvious and important interrelations between arithmetic, algebra, and geometry (mainly intuitive), which the student must grasp

before he can gain any real insight into mathematical methods and which are inevitably obscured by a strict adherence to the conception of separate "subjects." The movement has gained considerable new impetus by the growth of the junior high-school idea, and there can be little question that the results already achieved by those who are experimenting with the new methods of organization warrant the abandonment of the extreme "water-tight compartment" methods of presentation.

The newer method of organization enables the pupil to gain a broad view of the whole field of elementary mathematics early in his high-school course. In view of the very large number of pupils who drop out of school at the end of the eighth or the ninth school year or who for other reasons then cease their study of mathematics, this fact offers a weighty advantage over the older type of organization under which the pupil studied algebra alone during the ninth school year, to the complete exclusion of all contact with geometry.

It should be noted, however, that the specific recommendations as to content given in the next two chapters do not necessarily imply the adoption of a different type of organization of the materials of instruction. A large number of high schools will for some time continue to find it desirable to organize their courses of study in mathematics by subjects—algebra, plane geometry, etc. Such schools are urged to adopt the recommendations made with reference to the content of the separate subjects. These, in the main, constitute an essential simplification as compared with present practice. The economy of time that will result in courses in ninth-year algebra, for instance, will permit of the introduction of the newer type of material, including intuitive geometry and numerical trigonometry, and thus the way will be prepared for the gradual adoption in larger measure of the recommendations of this report.

At the present time it is not possible to designate any particular order of topics or any organization of the materials of instruction as being the best or as calculated most effectively to realize the aims and purposes here set forth. More extensive and careful experimental work must be done by teachers and administrators before any such designation can be made that shall avoid undesirable extremes and that shall bear the stamp of general approval. This experimental work will prove successful in proportion to the skill and insight exercised in adapting the aims and purposes of instruction to the interests and capacities of the pupils. One of the greatest weaknesses of the traditional courses is the fact that both the interests and the capacities of pupils have received insufficient consideration and study. For a detailed account of courses in mathematics at a num-

ber of the most successful experimental schools, the reader is referred to Chapter XII of the complete report.

Required courses.—The national committee believes that the material described in the next chapter should be required of all pupils, and that under favorable conditions this minimum of work can be completed by the end of the ninth school year. In the junior high school, comprising grades seven, eight, and nine, the course for these three years should be planned as a unit *with the purpose of giving each pupil the most valuable mathematical training he is capable of receiving in those years, with little reference to courses which he may or may not take in succeeding years.* In particular, college-entrance requirements should, during these years, receive no specific consideration. Fortunately there appears to be no conflict of interest during this period between those pupils who ultimately go to college and those who do not; a course planned in accordance with the principle just enunciated will form a desirable foundation for college preparation. (See Ch. V.)

Similarly, in case of the at present more prevalent 8-4 school organization, the mathematical material of the seventh and eighth grades should be selected and organized as a unit with the same purpose; the same applies to the work of the first year (ninth grade) of the standard four-year high school, and to later years in which mathematics may be a required subject.

In the case of some elective courses the principle needs to be modified so as to meet whatever specific vocational or technical purposes the courses may have. (See Ch. IV.)

The movement toward correlation of the work in mathematics with other courses in the curriculum, notably those in science, is as yet in its infancy. The results of such efforts will be watched with the keenest interest.

The junior high-school movement.—Reference has several times been made to the junior high school. The national committee adopted the following resolution on April 24, 1920:

The national committee approves the junior high school form of organization, and urges its general adoption in the conviction that it will secure greater efficiency in the teaching of mathematics.

The committee on the reorganization of secondary education, appointed by the National Education Association, in its pamphlet on the "Cardinal Principles of Secondary School Education," issued in 1918 by the Bureau of Education, advocates an organization of the school system whereby the first six years shall be devoted to elementary education, and the following six years to secondary education to be divided into two periods which may be designated as junior and senior periods.

To those interested in the study of the questions relating to the history and present status of the junior high-school movement, the following books are recommended: *Principles of Secondary Education*, by Inglis, Houghton Mifflin & Co., 1918; *The Junior High School*, *The Fifteenth Yearbook* (Pt. III) of the National Society for the Study of Education, Public School Publishing Co., 1919; *The Junior High School*, by Bennett, Warwick & York, 1919; *The Junior High School*, by Briggs, Houghton Mifflin & Co., 1920; and *The Junior High School*, by Koos, Harecourt, Brace & Howe, 1920.

V. THE TRAINING OF TEACHERS.

While the greater part of this report concerns itself with the content of courses in mathematics, their organization and the point of view which should govern the instruction, and investigations relating thereto, the national committee must emphasize strongly its conviction that even more fundamental is the problem of the teacher—his qualifications and training, his personality, skill, and enthusiasm.

The greater part of the failure of mathematics is due to poor teaching. Good teachers have in the past succeeded, and continue to succeed, in achieving highly satisfactory results with the traditional material; poor teachers will not succeed even with the newer and better material.

The United States is far behind Europe in the scientific and professional training required of its secondary school teachers (see Ch. XIV of the complete report). The equivalent of two or three years of graduate and professional training in addition to a general college course is the normal requirement for secondary school teachers in most European countries. Moreover, the recognized position of the teacher in the community must be such as to attract men and women of the highest ability into the profession. This means not only higher salaries but smaller classes and more leisure for continued study and professional advancement. It will doubtless require a considerable time before the public can be educated to realize the wisdom of taxing itself sufficiently to bring about the desired result. But if this ideal is continually advanced and supported by sound argument there is every reason to hope that in time the goal may be reached.

In the meantime everything possible should be done to improve the present situation. One of the most vicious and widespread practices consists in assigning a class in mathematics to a teacher who has had no special training in the subject and whose interests lie elsewhere, because in the construction of the time schedule he or she happens to have a vacant period at the time. This is done on the principle, apparently, that "anybody can teach mathematics" by simply

following a textbook and devoting 90 per cent of the time to drill in algebraic manipulation or to reciting the memorized demonstration of a theorem in geometry.

It will be apparent from the study of this report that a successful teacher of mathematics must not only be highly trained in his subject and have a genuine enthusiasm for it but must have also peculiar attributes of personality and above all insight of a high order into the psychology of the learning process as related to the higher mental activities. Administrators should never lose sight of the fact that while mathematics if properly taught is one of the most important, interesting, and valuable subjects of the curriculum, it is also one of the most difficult to teach successfully.

Standards for teachers.—It is necessary at the outset to make a fundamental distinction between standards in the sense of requirements for appointment to teaching positions, and standards of scientific attainment which shall determine the curricula of colleges and normal schools aiming to give candidates the best practicable preparation. The former requirements should be high enough to insure competent teaching, but they must not be so high as to form a serious obstacle to admission to the profession even for candidates who have chosen it relatively late. The main factors determining the level of these requirements are the available facilities for preparation, the needs of the pupils, and the economic or salary conditions.

Relatively few young people deliberately choose before entering college the teaching of secondary mathematics as a life work. In the more frequent or more typical case the college student who will ultimately become a teacher of secondary mathematics makes the choice gradually, perhaps unconsciously, late in the college course or even after its completion, perhaps after some trial of teaching in other fields. The possible supply of young people who have the real desire to become teachers of mathematics is so meager in comparison with the almost unlimited needs of the country that every effort should be made to develop and maintain that desire and all possible encouragement given those who manifest it. If, as will usually be the case, the desire is associated with the necessary mathematical capacity, it will not be wise to hamper the candidate by requiring too high attainments, though as a matter of course he will need guidance in continuing his preparation for a profession of exceptional difficulty and exceptional opportunity.

Another factor which must tend to restrict requirements of high mathematical attainment is the importance to the candidate of breadth of preparation. In college he may be in doubt as to becoming a teacher of mathematics or physics or some other subject. It is unwise to hasten the choice. In many cases the secondary teacher

must be prepared in more than one field, and to the future teacher of mathematics preparation in physics and drawing, not to mention chemistry, engineering, etc., may be at least as valuable as purely mathematical college electives beyond the calculus.

In the second sense—of standards of scientific attainment to be held by the colleges and normal schools—these institutions should make every effort—

1. To awaken interest in the subject and the teaching of it in as many young people of the right sort as possible.
2. To give them the best possible opportunity for professional preparation and improvement, both before and after the beginning of teaching.

How the matter of requirements for appointment will actually work out in a given community will inevitably depend upon conditions of time and place, varying widely in character and degree. In many communities it is already practicable and customary to require not less than two years of college work in mathematics, including elementary calculus, with provision for additional electives. Such a requirement the committee would strongly recommend, recognizing, however, that in some localities it would be for the present too restrictive of the supply. In some cases preparation in the pedagogy, philosophy, and history of mathematics could be reasonably demanded or at least given weight; in other cases, any considerable time spent upon them would be of doubtful value. In all cases requirements should be carefully adjusted to local conditions with a view to recognizing the value both of broad and thorough training on the part of those entering the profession and of continued preparation by summer work and the like. Particular pains should be taken that such preparation is made accessible and attractive in the colleges and normal schools from which teachers are drawn.

It is naturally important that entrance to the profession should not be much delayed by needlessly high or extended requirements, and the danger of creating a teacher who may be too much a specialist for school work and too little for college training must be guarded against. There may naturally also be a wide difference between requirements in a strong school offering many electives and a weaker one or a junior high school. Practically, it may be fair to expect that the stronger schools will maintain their standards not by arbitrary or general requirements for entrance to the profession but often by recruiting from other schools teachers who have both high attainments and successful teaching experience.

Programs of courses for colleges and normal schools preparing teachers in secondary mathematics will be found in Chapter XIV of the complete report, together with an account of existing conditions.

Chapter III.

MATHEMATICS FOR YEARS SEVEN, EIGHT AND NINE

I. INTRODUCTION.

There is a well-marked tendency among school administrators to consider grades one to six, inclusive, as constituting the elementary school and to consider the secondary school period as commencing with the seventh grade and extending through the twelfth.¹ Conforming to this view, the contents of the courses of study in mathematics for grades seven, eight, and nine are considered together. In the succeeding chapter the content for grades 10, 11, and 12 is considered.

The committee is fully aware of the widespread desire on the part of teachers throughout the country for a detailed syllabus by years or half years which shall give the best order of topics with specific time allotments for each. This desire can not be met at the present time for the simple reason that no one knows what is the best order of topics nor how much time should be devoted to each in an ideal course. The committee feels that its recommendations should be so formulated as to give every encouragement to further experimentation rather than to restrict the teacher's freedom by a standardized syllabus.

However, certain suggestions as to desirable arrangements of the material are offered in a later section (Sec. III) of this chapter, and in Chapter XII (Mathematics in Experimental Schools) of the complete report there will be found detailed outlines giving the order of presentation and time allotments in actual operation in schools of various types. This material should be helpful to teachers and administrators in planning courses to fit their individual needs and conditions.

It is the opinion of the committee that the material included in this chapter should be required of all pupils. It includes mathematical knowledge and training which is likely to be needed by every citizen. Differentiation due to special needs should be made after and not before the completion of such a general minimum foundation. Such portions of the recommended content as have

¹ See Cardinal Principles of Secondary Education, p. 18.

"We therefore recommend a reorganization of the school system whereby the first six years shall be devoted to elementary education designed to meet the needs of pupils of approximately 6 to 12 years of age; and the second 6 years to secondary education designed to meet the needs of approximately 12 to 18 years of age. * * * The 6 years to be devoted to secondary education may well be divided into two periods which may be designated as the junior and senior periods."

not been completed by the end of the ninth year should be required in the following year.

The general principles which have governed the selection of the material presented in the next section and which should govern the point of view of the teaching have already been stated (Ch. II). At this point it seems desirable to recall specifically what was then said concerning principles governing the organization of material, the importance to be attached to the development of insight and understanding and of ability to think clearly in terms of relationships (dependence) and the limitations imposed on drill in algebraic manipulation. In addition we would call attention to the following:

It is assumed that at the end of the sixth school year the pupil will be able to perform with accuracy and with a fair degree of speed the fundamental operations with integers and with common and decimal fractions. The fractions here referred to are such simple ones in common use as are set forth in detail under A (c) in the following section. It may be pointed out that the standard of attainment here implied is met in a large number of schools, as is shown by various tests now in use (see Ch. XIII of the complete report), and can easily be met generally if time is not wasted on the relatively unimportant parts of the subject.

In adapting instruction in mathematics to the mental traits of pupils care should be taken to maintain the mental growth too often stunted by secondary school materials and methods, and an effort should be made to associate with inquisitiveness, the desire to experiment, the wish to know "how and why," and the like, the satisfaction of these needs.

In the years under consideration it is also especially important to give the pupils as broad an outlook over the various fields of mathematics as is consistent with sound scholarship. These years especially are the ones in which the pupil should have the opportunity to find himself, to test his abilities and aptitudes, and to secure information and experience which will help him choose wisely his later courses and ultimately his life work.

II. MATERIAL FOR GRADES SEVEN, EIGHT, AND NINE.

In the material outlined in the following pages no attempt is made to indicate the most desirable order of presentation. Stated by topics rather than years the mathematics of grades seven, eight, and nine may properly be expected to include the following:

A. *Arithmetic*:

- (a) The fundamental operations of arithmetic.
- (b) Tables of weights and measures in general practical use, including the most common metric units (meter, centimeter, millimeter, kilometer, gram, kilogram, liter). The meaning of such foreign monetary units as pound, franc, and mark.

- (c) Such simple fractions as $\frac{1}{2}$, $\frac{1}{3}$, $\frac{2}{3}$, $\frac{1}{4}$, $\frac{3}{4}$, $\frac{1}{5}$, $\frac{4}{5}$; others than these to have less attention.
- (d) Facility and accuracy in the four fundamental operations; time tests, taking care to avoid subordinating the teaching to the tests, or to use the tests as measures of the teacher's efficiency. (See Ch. XIII.)
- (e) Such simple short cuts in multiplication and division as that of replacing multiplication by 25 by multiplying by 100 and dividing by 4.
- (f) Percentage. Interchanging common fractions and per cents; finding any per cent of a number; finding what per cent one number is of another; finding a number when a certain per cent of it is known; and such applications of percentage as come within the student's experience.
- (g) Line, bar, and circle graphs wherever they can be used to advantage.
- (h) Arithmetic of the home: Household accounts, thrift, simple bookkeeping, methods of sending money, parcel post.
 Arithmetic of the community: Property and personal insurance, taxes.
 Arithmetic of banking: Savings accounts, checking accounts.
 Arithmetic of investment: Real estate, elementary notions of stocks and bonds, postal savings.
- (i) Statistics: Fundamental concepts, statistical tables and graphs; pictograms; graphs showing simple frequency distributions.

It will be seen that the material listed above includes some material of earlier instruction. This does not mean that this material is to be made the direct object of study but that drill in it shall be given in connection with the new work. It is felt that this shift in emphasis will make the arithmetic processes here involved much more effective and will also result in a great saving of time.

The amount of time devoted to arithmetic as a distinct subject should be greatly reduced from what is at present customary. This does not mean a lessening of emphasis on drill in arithmetic processes for the purpose of securing accuracy and speed. The need for continued arithmetic work and numerical computation throughout the secondary school period is recognized elsewhere in this report. (Ch. II.)

The applications of arithmetic to business should be continued late enough in the course to bring to their study the pupil's greatest maturity, experience, and mathematical knowledge, and to insure real significance of this study in the business and industrial life which many of the pupils will enter upon at the close of the eighth or ninth school year. (See I below.) In this connection care should be taken that the business practices taught in the schools are in accord with the best actual usage. Arithmetic should not be completed before the pupil has acquired the power of using algebra as an aid.

B. Intuitive geometry:

(a) The direct measurement of distances and angles by means of a linear scale and protractor. The approximate character of measurement. An understanding of what is meant by the degree of precision as expressed by the number of "significant" figures.

(b) Areas of the square, rectangle, parallelogram, triangle, and trapezoid; circumference and area of a circle; surfaces and volumes of solids of corresponding importance; the construction of the corresponding formulas.

(c) Practice in numerical computation with due regard to the number of figures used or retained.

(d) Indirect measurement by means of drawings to scale. Uses of square ruled paper.

(e) Geometry of appreciation. Geometric forms in nature, architecture, manufacture, and industry.

(f) Simple geometric constructions with ruler and compasses, T-square, and triangle, such as that of the perpendicular bisector, the bisector of an angle, and parallel lines.

(g) Familiarity with such forms as the equilateral triangle, the 30° - 60° right triangle, and the isosceles right triangle; symmetry; a knowledge of such facts as those concerning the sum of the angles of a triangle and the Pythagorean relation; simple cases of geometric loci in the plane and in space.

(h) Informal introduction to the idea of similarity.

The work in intuitive geometry should make the pupil familiar with the elementary ideas concerning geometric forms in the plane and in space with respect to shape, size, and position. Much opportunity should be provided for exercising space perception and imagination. The simpler geometric ideas and relations in the plane may properly be extended to three dimensions. The work should, moreover, be carefully planned so as to bring out geometric relations and logical connections. Before the end of this intuitive work the pupil should have definitely begun to make inferences and to draw valid conclusions from the relations discovered. In other words, this informal work in geometry should be so organized as to make it a gradual approach to, and provide a foundation for, the subsequent work in demonstrative geometry.

C. Algebra:

1. The formula—its construction, meaning, and use (a) as a concise language; (b) as a shorthand rule for computation; (c) as a general solution; (d) as an expression of the dependence of one variable upon another.

The pupil will already have met the formula in connection with intuitive geometry. The work should now include translation from English into algebraic language, and vice versa, and special care should be taken to make sure that the new language is understood and used intelligently. The nature of the dependence of one variable in a formula upon another should be examined and analyzed, with a view to seeing "how the formula works." (See Ch. VII.)

2. Graphs and graphic representations in general—their construction and interpretation in (a) representing facts (statistical, etc.); (b) representing dependence; (c) solving problems.

After the necessary technique has been adequately presented graphic representation should not be considered as a separate topic

but should be used throughout, whenever helpful, as an illustrative and interpretative instrument.

3. Positive and negative members—their meaning and use (a) as expressing both magnitude and one of two opposite directions or senses; (b) their graphic representation; (c) the fundamental operations applied to them.

4. The equation—its use in solving problems:

(a) Linear equations in one unknown—their solution and applications.

(b) Simple cases of quadratic equations when arising in connection with formulas and problems.

(c) Equations in two unknowns, with numerous concrete illustrations.

(d) Various simple applications of ratio and proportion in cases in which they are generally used in problems of similarity and in other problems of ordinary life. In view of the usefulness of the ideas and training involved, this subject may also properly include simple cases of variation.

5. Algebraic technique: (a) The fundamental operations.

Their connection with the rules of arithmetic should be clearly brought out and made to illuminate numerical processes. Drill in these operations should be limited strictly in accordance with the principle mentioned in Chapter II, page 9. In particular, “nests” of parentheses should be avoided, and multiplication and division should not involve much beyond monomial and binomial multipliers, divisors, and quotients.

(b) Factoring: The only cases that need be considered are (i) common factors of the terms of a polynomial; (ii) the difference of two squares; (iii) trinomials of the second degree that can be easily factored by trial.

(c) Fractions.

Here again the intimate connection with the corresponding processes of arithmetic should be made clear and should serve to illuminate such processes. The four fundamental operations with fractions should be considered only in connection with simple cases and should be applied constantly throughout the course so as to gain the necessary accuracy and facility.

(d) Exponents and radicals. The work done on exponents and radicals should be confined to the simplest material required for the treatment of formulas. The laws for positive integral exponents should be included. The consideration of radicals should be confined

to transformations of the following types: $\sqrt{a^2b} = a\sqrt{b}$, $\sqrt{a/b} = \frac{1}{b}\sqrt{ab}$ and $\sqrt{a/b} = \sqrt{a}/\sqrt{b}$, and to the numerical evaluation of simple expressions involving the radical sign. A process for finding the square

root of a number should be included, but not for finding the square root of a polynomial.

(e) Stress should be laid upon the need for checking solutions.

D. Numerical trigonometry:

(a) Definition of sine, cosine, and tangent.

(b) Their elementary properties as functions.

(c) Their use in solving problems involving right triangles.

(d) The use of tables of these functions (to three or four places).

The introduction of the elementary notions of trigonometry into the earlier courses in mathematics has not been as general in the United States as in foreign countries. (See Ch. XI of the complete report.) Among the reasons for early introduction of this topic are these: Its practical usefulness for many citizens; the insight it gives into the nature of mathematical methods, particularly those concerned with indirect measurement, and into the rôle that mathematics plays in the life of the world; the fact that it is not difficult and that it offers wide opportunity for concrete and significant application, and the interest it arouses in the pupils. It should be based upon the work in intuitive geometry, with which it has intimate contacts (see *B, d, h*), and should be confined to the simplest material needed for the numerical treatment of the problems indicated. Relations between the trigonometric functions need not be considered.

E. Demonstrative geometry.—The demonstration of a limited number of propositions, with no attempt to limit the number of fundamental assumptions, the principal purpose being to show to the pupil what “demonstration” means.

Many of the geometric facts previously inferred intuitively may be used as the basis upon which the demonstrative work is built. This is not intended to preclude the possibility of giving at a later time rigorous proofs of some of the facts inferred intuitionally. It should be noted that from the strictly logical point of view the attempt to reduce to a minimum the list of axioms, postulates or assumptions is not at all necessary, and from a pedagogical point of view such an attempt in an elementary course is very undesirable. It is necessary, however, that those propositions which are to be used as the basis of subsequent formal proofs be explicitly listed and their logical significance recognized.

In regard to demonstrative geometry some teachers have objected to the introduction of such work below the tenth grade on the ground that with such immature pupils as are found in the ninth grade nothing worth while could be accomplished in the limited time available. These teachers may be right with regard to conditions prevailing or likely to prevail in the majority of schools in the immediate future. The committee has therefore in a later section of this

chapter (Sec. III) made alternative provision for the omission of work in demonstrative geometry.

On the other hand, it is proper to call attention to the fact that certain teachers have successfully introduced a limited amount of work in demonstrative geometry into the ninth grade (see Ch. XII of the complete report), and that it would seem desirable that others should make the experiment when conditions are favorable. Much of the opposition is probably due to a failure to realize the extent to which the work in intuitive geometry, if properly organized, will prepare the way for the more formal treatment, and to a misconception of the purposes and extent of the work in demonstrative geometry that is proposed. In reaching a decision on this question teachers should keep in mind that it is one of their important duties and obligations, in the grades under consideration, to show their pupils the nature, content, and possibilities of later courses in their subject and to give to each pupil an opportunity to determine his aptitudes and preferences therefor. The omission in the earlier courses of all work of a demonstrative nature in geometry would disregard one educationally important aspect of mathematics.

F. History and biography.—Teachers are advised to make themselves reasonably acquainted with the leading events in the history of mathematics, and thus to know that mathematics has developed in answer to human needs, intellectual as well as technical. They should use this material incidentally throughout their courses for the purpose of adding to the interest of the pupils by means of informal talks on the growth of mathematics and on the lives of the great makers of the science.

G. Optional topics.—Certain schools have been able to cover satisfactorily the work suggested in sections A–F before the end of the ninth grade. (See Ch. XII, on Experimental Schools.) The committee looks with favor on the efforts, in such schools, to introduce earlier than is now customary certain topics and processes which are closely related to modern needs, such as the meaning and use of fractional and negative exponents, the use of the slide rule, the use of logarithms and of other simple tables, and simple work in arithmetic and geometric progressions, with modern applications to such financial topics as interest and annuities and to such scientific topics as falling bodies and laws of growth.

H. Topics to be omitted or postponed.—In addition to the large amount of drill in algebraic technique already referred to, the following topics should, in accordance with our basic principles, be excluded from the work of grades seven, eight, and nine; some of them will properly be included in later courses (see Ch. IV):

Highest common factor and lowest common multiple, except the simplest cases involved in the addition of simple fractions.

The theorems on proportion relating to alternation, inversion, composition, and division.

Literal equations, except such as appear in common formulas, including the derivation of formulas and of geometric relations, or to show how needless computation may be avoided.

Radicals, except as indicated in a previous section.

Square root of polynomials.

Cube root.

Theory of exponents.

Simultaneous equations in more than two unknowns.

The binomial theorem.

Imaginary and complex numbers.

Radical equations except such as arise in dealing with elementary formulas.

I. Problems.—As already indicated, much of the emphasis now generally placed on the formal exercise should be shifted to the “concrete” or “verbal” problem. The selection of problem material is, therefore, of the highest importance.

The demand for “practical” problems should be fully met in so far as the maturity and previous experience of the pupil will permit. But above all, the problems must be “real” *to the pupil*, must connect with his ordinary thought, and must be within the world of his experience and interest.

The educational utility of problems is not to be measured by their commercial or scientific value, but by their degree of reality for the pupils. They must exemplify those leading ideas which it is desired to impart, and they must do so through media which are real to those under instruction. The reality is found in the students, the utility in their acquisition of principles.²

There should be, moreover, a conscious effort through the selection of problems to correlate the work in mathematics with the other courses of the curriculum, especially in connection with courses in science. The introduction of courses in “general science” increases the opportunities in this direction.

J. Numerical computation, use of tables, etc.—The solution of problems should offer opportunity throughout the grades under consideration for considerable arithmetical and computational work. In this connection attention should be called to the importance of exercising common sense and judgment in the use of approximate data, keeping in mind the fact that all data secured from measurement are approximate. A pupil should be led to see the absurdity of giving the area of a circle to a thousandth of a square inch when the radius has been measured only to the nearest inch. He should understand the conception of “the number of significant figures” and should not retain more figures in his result than are warranted by the accuracy of his data. The ideals of accuracy and of self-reliance and the necessity of checking all numerical results should be emphasized. An insight into the nature of tables, including some elementary notions as to interpolation, is highly desirable. The use of tables of various

² Carson: Mathematical Education, pp. 42-45.

kinds (such as squares and square roots, interest and trigonometric functions) to facilitate computation and to develop the idea of dependence should be encouraged.

III. SUGGESTED ARRANGEMENTS OF MATERIAL.

In approaching the problem of arranging or organizing this material it is necessary to consider the different situations that may have to be met.

1. *The junior high school.*—In view of the fact that under this form of school organization pupils may be expected to remain in school until the end of the junior high-school period instead of leaving in large numbers at the end of the eighth school year, the mathematics of the three years of the junior high school should be planned as a unit, and should include the material recommended in the preceding section. There remains the question as to the order in which the various topics should be presented and the amount of time to be devoted to each. The committee has already stated its reasons for not attempting to answer this question (see Sec. I). The following plans for the distribution of time are, however, suggested in the hope that they may be helpful, but no one of them is recommended as superior to the others, and only the large divisions of material are mentioned.

PLAN A.

First year: Applications of arithmetic, particularly in such lines as relate to the home, to thrift, and to the various school subjects; intuitive geometry.

Second year: Algebra; applied arithmetic, particularly in such lines as relate to the commercial, industrial and social needs.

Third year: Algebra, trigonometry, demonstrative geometry.

By this plan the demonstrative geometry is introduced in the third year, and arithmetic is practically completed in the second year.

PLAN B.

First year: Applied arithmetic (as in plan A); intuitive geometry.

Second year: Algebra, intuitive geometry, trigonometry.

Third year: Applied arithmetic, algebra, trigonometry, demonstrative geometry.

By this plan trigonometry is taken up in two years, and the arithmetic is transferred from the second year to the third year.

PLAN C.

First year: Applied arithmetic (as in plan A), intuitive geometry, algebra.

Second year: Algebra, intuitive geometry.

Third year: Trigonometry, demonstrative geometry, applied arithmetic.

By this plan algebra is confined chiefly to the first two years.

PLAN D.

First year: Applied arithmetic (as in plan A), intuitive geometry.

Second year: Intuitive geometry, algebra.

Third year: Algebra, trigonometry, applied arithmetic.

By this plan demonstrative geometry is omitted entirely.

PLAN E.

First year: Intuitive geometry, simple formulas, elementary principles of statistics, arithmetic (as in plan A).

Second year: Intuitive geometry, algebra, arithmetic.

Third year: Geometry, numerical trigonometry, arithmetic.

2. Schools organized on the 8-4 plan.—It can not be too strongly emphasized that, in the case of the older and at present more prevalent plan of the 8-4 school organization, the work in mathematics of the seventh, eighth, and ninth grades should also be organized to include the material here suggested.

The prevailing practice of devoting the seventh and eighth grades almost exclusively to the study of arithmetic is generally recognized as a wasteful marking of time. It is mainly in these years that American children fall behind their European brothers and sisters. No essentially new arithmetical principles are taught in these years, and the attempt to apply the previously learned principles to new situations in the more advanced business and economic aspects of arithmetic is doomed to failure on account of the fact that the situations in question are not and can not be made real and significant to pupils of this age. We need only refer to what has already been said in this chapter on the subject of problems.

The same principles should govern the selection and arrangement of material in mathematics for the seventh and eighth grades of a grade school as govern the selection for the corresponding grades of a junior high school, with this exception: Under the 8-4 form of organization many pupils will leave school at the end of the eighth year. This fact must receive due consideration. The work of the seventh and eighth years should be so planned as to give the pupils in these grades the most valuable mathematical information and training that they are capable of receiving in those years, with little reference to courses that they may take in later years. As to possibilities for arrangement, reference may be made to the plans given above for the first two years of the junior high school. When the work in mathematics of the seventh and eighth grades has been thus reorganized, the work of the first year of a standard four-year high school should complete the program suggested.

Finally, there must be considered the situation in those four-year high schools in which the pupils have not had the benefit of the reorganized instruction recommended for grades seven and eight. It may be hoped that this situation will be only temporary, although it must be recognized, that owing to a variety of possible reasons (lack of adequately prepared teachers in grades seven and eight, lack of suitable text books, administrative inertia, and the like), the new plans will not be immediately adopted and that therefore, for some years, many high schools will have to face the situation implied.

In planning the work of the ninth grade under these conditions teachers and administrative officers should again be guided by the principle of giving the pupils the most valuable mathematical information and training which they are capable of receiving in this year with little reference to future courses which the pupil may or may

not take. It is to be assumed that the work of this year is to be required of all pupils. Since for many this will constitute the last of their mathematical instruction, it should be so planned as to give them the widest outlook consistent with sound scholarship.

Under these conditions it would seem desirable that the work of the ninth grade should contain both algebra and geometry. It is, therefore, recommended that about two-thirds of the time be devoted to the most useful parts of algebra, including the work on numerical trigonometry, and that about one-third of the time be devoted to geometry, including the necessary informal introduction and, if feasible, the first part of demonstrative geometry.

It should be clear that owing to the greater maturity of the pupils much less time need be devoted in the ninth grade to certain topics of intuitive geometry (such as direct measurement, for example) than is desirable when dealing with children in earlier grades. Even under the conditions presupposed pupils will be acquainted with most of the fundamental geometric forms and with the mensuration of the most important plane and solid figures. The work in geometry in the ninth grade can then properly be made to center about indirect measurement and the idea of similarity (leading to the processes of numerical trigonometry), and such geometric relations as the sum of the angles of a triangle, the Pythagorean proposition, congruence of triangles, parallel and perpendicular lines, quadrilaterals and the more important simple constructions.

Chapter IV.

MATHEMATICS FOR YEARS TEN, ELEVEN, AND TWELVE.

I. INTRODUCTION.

The committee has in the preceding chapter expressed its judgment that the material there recommended for the seventh, eighth, and ninth years should be required of all pupils. In the tenth, eleventh, and twelfth years, however, the extent to which elections of subjects is permitted will depend on so many factors of a general character that it seems unnecessary and inexpedient for the present committee to urge a positive requirement beyond the minimum one already referred to. The subject must, like others, stand or fall on its intrinsic merit or on the estimate of such merit by the authorities responsible at a given time and place. The committee believes nevertheless that every standard high school should not merely offer courses in mathematics for the tenth, eleventh, and twelfth years, but should encourage a large proportion of its pupils to take them. Apart from the intrinsic interest and great educational value of the study of mathematics, it will in general be necessary for those preparing to enter college or to engage in the numerous occupations involving the use of mathematics to extend their work beyond the minimum requirement.

The present chapter is intended to suggest for students in general courses the most valuable mathematical training that will appropriately follow the courses outlined in the previous chapter. Under present conditions most of this work will normally fall in the last three years of the high school; that is, in general, in the tenth, eleventh, and twelfth years.

The selection of material is based on the general principles formulated in Chapter II. At this point attention need be directed only to the following:

1. In the years under consideration it is proper that some attention be paid to the students' vocational or other later educational needs.

2. The material for these years should include as far as possible those mathematical ideas and processes that have the most important applications in the modern world. As a result, certain material will naturally be included that at present is not ordinarily given in secondary-school courses; as, for instance, the material concerning the calculus. On the other hand, certain other material that is now

included in college entrance requirements will be excluded. The results of an investigation made by the national committee in connection with a study of these requirements indicates that modifications to meet these changes will be desirable from the standpoint of both college and secondary school (see Ch. V).

8. During the years now under consideration an increasing amount of attention should be paid to the logical organization of the material, with the purpose of developing habits of logical memory, appreciation of logical structure, and ability to organize material effectively.

It can not be too strongly emphasized that the broadening of content of high-school courses in mathematics suggested in the present and in previous chapters will materially increase the usefulness of these courses to those who pursue them. It is of prime importance that educational administrators and others charged with the advising of students should take careful account of this fact in estimating the relative importance of mathematical courses and their alternatives. The number of important applications of mathematics in the activities of the world is to-day very large and is increasing at a very rapid rate. This aspect of the progress of civilization has been noted by all observers who have combined a knowledge of mathematics with an alert interest in the newer developments in other fields. It was revealed in very illuminating fashion during the recent war by the insistent demand for persons with varying degrees of mathematical training for many war activities of the first moment. If the same effort were made in time of peace to secure the highest level of efficiency available for the specific tasks of modern life, the demand for those trained in mathematics would be no less insistent; for it is in no wise true that the applications of mathematics in modern warfare are relatively more important or more numerous than its applications in those fields of human endeavor which are of a constructive nature.

There is another important point to be kept in mind in considering the relative value to the average student of mathematical and various alternative courses. If the student who omits the mathematical courses has need of them later, it is almost invariably more difficult, and it is frequently impossible, for him to obtain the training in which he is deficient. In the case of a considerable number of alternative subjects a proper amount of reading in spare hours at a more mature age will ordinarily furnish him the approximate equivalent to that which he would have obtained in the way of information in a high-school course in the same subject. It is not, however, possible to make up deficiencies in mathematical training in so simple a fashion. It requires systematic work under a competent teacher to master properly the technique of the subject, and any break in the continuity of the work is a handicap for which increased maturity rarely compensates. Moreover, when the indi-

individual discovers his need for further mathematical training it is usually difficult for him to take the time from his other activities for systematic work in elementary mathematics.

II. RECOMMENDATIONS FOR ELECTIVE COURSES.

The following topics are recommended for inclusion in the mathematical electives open to pupils who have satisfactorily completed the work outlined in the preceding chapter, comprising arithmetic, the elementary notions of algebra, intuitive geometry, numerical trigonometry, and a brief introduction to demonstrative geometry.

1. *Plane demonstrative geometry*.—The principal purposes of the instruction in this subject are: To exercise further the spatial imagination of the student, to make him familiar with the great basal propositions and their applications, to develop understanding and appreciation of a deductive proof and the ability to use this method of reasoning where it is applicable and to form habits of precise and succinct statement, of the logical organization of ideas, and of logical memory. Enough time should be spent on this subject to accomplish these purposes.

The following is a suggested list of topics under which the work in demonstrative geometry may be organized:¹ (a) Congruent triangles, perpendicular bisectors, bisectors of angles; (b) arcs, angles, and chords in circles; (c) parallel lines and related angles, parallelograms; (d) the sum of the angles for triangle and polygon; (e) secants and tangents to circles with related angles, regular polygons; (f) similar triangles, similar figures; (g) areas; numerical computation of lengths and areas, based upon geometric theorems already established.

Under these topics constructions, loci, areas, and other exercises are to be included.

It is recommended that the formal theory of limits and of incommensurable cases be omitted, but that the ideas of limit and of incommensurable magnitudes receive informal treatment.

It is believed that a more frequent use of the idea of motion in the demonstration of theorems is desirable, both from the point of view of gaining greater insight and of saving time.²

If the great basal theorems are selected and effectively organized into a logical system, a considerable reduction (from 30 to 40 per cent) can be made in the number of theorems given either in the Harvard list or in the report of the Committee of Fifteen. Such a reduction is exhibited in the lists prepared by the committee and

¹ It is not intended that the order here given should imply anything as to the order of presentation. (See also Ch. VI.)

² Reference may here be made to the treatment given in recent French texts such as those by Bourlet and Méray.

printed later in this report (Ch. VI). In this connection it may be suggested that more attention than is now customary may profitably be given to those methods of treatment which make consistent use of the idea of motion (already referred to), continuity (the tangent as the limit of a secant, etc.), symmetry, and the dependence of one geometric magnitude upon another.

If the student has had a satisfactory course in intuitive geometry and some work in demonstration before the tenth grade, he may find it possible to cover a minimum course in demonstrative geometry, giving the great basal theorems and constructions, together with exercises, in the 90 periods constituting a half year's work.

2. *Algebra*.—(a) Simple functions of one variable: Numerous illustrations and problems involving linear, quadratic, and other simple functions including formulas from science and common life. More difficult problems in variation than those included in the earlier course.

(b) Equations in one unknown: Various methods for solving a quadratic equation (such as factoring, completing the square, use of formula) should be given. In connection with the treatment of the quadratic a very brief discussion of complex numbers should be included. Simple cases of the graphic solution of equations of degree higher than the second should be discussed and applied.

(c) Equations in two or three unknowns: The algebraic solution of linear equation in two or three unknowns and the graphic solution of linear equations in two unknowns should be given. The graphic and algebraic solution of a linear and a quadratic equation and of two quadratics that contain no first degree term and no xy term should be included.

(d) Exponents, radicals and logarithms: The definitions of negative, zero and fractional exponents should be given, and it should be made clear that these definitions must be adopted if we wish such exponents to conform to the laws for positive integral exponents. Reduction of radical expressions to those involving fractional exponents should be given as well as the inverse transformation. The rules for performing the fundamental operations on expressions involving radicals, and such transformations as

$$\sqrt[n]{a/b} = \frac{1}{b} \sqrt[n]{ab^{n-1}}, \quad \sqrt[n]{a^n b} = a \sqrt[n]{b}, \quad \frac{a}{\sqrt{b} + \sqrt{c}} = \frac{a(\sqrt{b} - \sqrt{c})}{b - c}$$

should be included. In close connection with the work on exponents and radicals there should be given as much of the theory of logarithms as is involved in their application to computation and sufficient practice in their use in computation to impart a fair degree of facility.

(e) Arithmetic and geometric progressions: The formulas for the n th term and the sum of n terms should be derived and applied to significant problems.

(f) Binomial theorem: A proof for positive integral exponents should be given; it may also be stated that the formula applies to the case of negative and fractional exponents under suitable restrictions, and the problems may include the use of the formula in these cases as well as in the case of positive integral exponents.

3. *Solid geometry*.—The aim of the work in solid geometry should be to exercise further the spatial imagination of the student and to give him both a knowledge of the fundamental spatial relationships and the power to work with them. It is felt that the work in plane geometry gives enough training in logical demonstration to warrant a shifting of emphasis in the work on solid geometry away from this aspect of the subject and in the direction of developing greater facility in visualizing spatial relations and figures, in representing such figures on paper, and in solving problems in mensuration.

For many of the practical applications of mathematics it is of fundamental importance to have accurate space perceptions. Hence it would seem wise to have at least some of the work in solid geometry come as early as possible in the mathematical courses, preferably not later than the beginning of the eleventh school year. Some schools will find it possible and desirable to introduce the more elementary notions of solid geometry in connection with related ideas of plane geometry.

The work in solid geometry should include numerous exercises in computation based on the formulas established. This will serve to correlate the work with arithmetic and algebra and to furnish practice in computation.

The following provisional outline of subject matter is submitted:

- a. Propositions relating to lines and planes, and to dihedral and trihedral angles.
- b. Mensuration of the prism, pyramid, and frustum; the (right circular) cylinder, cone and frustum, based on an informal treatment of limits; the sphere, and the spherical triangle.
- c. Spherical geometry.
- d. Similar solids.

Such theorems as are necessary as a basis for the topics here outlined should be studied in immediate connection with them.

Desirable simplification and generalization may be introduced into the treatment of mensuration theorems by employing such theorems as Cavalieri's and Simpson's, and the Prismoid Formula; but rigorous proofs or derivations of these need not be included.

Beyond the range of the mensuration topics indicated above, it seems preferable to employ the methods of the elementary calculus. (See section 6, below).

It should be possible to complete a minimum course covering the topics outlined above in not more than one-third of a year.

The list of propositions in solid geometry given in Chapter VI should be considered in connection with the general principles stated at the beginning of this section. By requiring formal proofs to a more limited extent than has been customary, time will be gained to attain the aims indicated and to extend the range of geometrical information of the pupil. Care must be exercised to make sure that the pupil is thoroughly familiar with the facts, with the associated terminology, with all the necessary formulas, and that he secures the necessary practice in working with and applying the information acquired to concrete problems.

4. *Trigonometry*.—The work in elementary trigonometry begun in the earlier years should be completed by including the logarithmic solution of right and oblique triangles, radian measure, graphs of trigonometric functions, the derivation of the fundamental relations between the functions and their use in proving identities and in solving easy trigonometric equations. The use of the transit in connection with the simpler operations of surveying and of the sextant for some of the simpler astronomical observations, such as those involved in finding local time, is of value; but when no transit or sextant is available, simple apparatus for measuring angles roughly may and should be improvised. Drawings to scale should form an essential part of the numerical work in trigonometry. The use of the slide rule in computations requiring only three-place accuracy and in checking other computations is also recommended.

5. *Elementary statistics*.—Continuation of the earlier work to include the meaning and use of fundamental concepts and simple frequency distributions with graphic representations of various kinds and measures of central tendency (average, mode, and median).

6. *Elementary calculus*.—The work should include:

(a) The general notion of a derivative as a limit indispensable for the accurate expression of such fundamental quantities as velocity of a moving body or slope of a curve.

(b) Applications of derivatives to easy problems in rates and in maxima and minima.

(c) Simple cases of inverse problems; e. g., finding distance from velocity, etc.

(d) Approximate methods of summation leading up to integration as a powerful method of summation.

(e) Applications to simple cases of motion, area, volume, and pressure.

Work in the calculus should be largely graphic and may be closely related to that in physics; the necessary technique should be reduced to a minimum by basing it wholly or mainly on algebraic polynomials. No formal study of analytic geometry need be presupposed beyond the plotting of simple graphs.

It is important to bear in mind that, while the elementary calculus is sufficiently easy, interesting, and valuable to justify its introduction, special pains should be taken to guard against any lack of thoroughness in the fundamentals of algebra and geometry. No possible gain could compensate for a real sacrifice of such thoroughness.

It should also be borne in mind that the suggestion of including elementary calculus is not intended for all schools nor for all teachers or all pupils in any school. It is not intended to connect in any direct way with college entrance requirements. The future college student will have ample opportunity for calculus later. The capable boy or girl who is not to have the college work ought not on that account to be prevented from learning something of the use of this powerful tool. The applications of elementary calculus to simple concrete problems are far more abundant and more interesting than those of algebra. The necessary technique is extremely simple. The subject is commonly taught in secondary schools in England, France, and Germany, and appropriate English texts are available.*

7. *History and biography.*—Historical and biographical material should be used throughout to make the work more interesting and significant.

8. *Additional electives.*—Additional electives such as *mathematics of investment, shop mathematics, surveying and navigation, descriptive or projective geometry* will appropriately be offered by schools which have special needs or conditions, but it seems unwise for the national committee to attempt to define them pending the results of further experience on the part of these schools.

III. PLANS FOR ARRANGEMENT OF THE MATERIAL.

In the majority of high schools at the present time the topics suggested can probably be given most advantageously as separate units of a three-year program. However, the national committee is of the opinion that methods of organization are being experimentally perfected whereby teachers will be enabled to present much of this material more effectively in combined courses unified by one or more of such central ideas, functionality and graphic representation.

* Quotations and typical problems from one of these texts will be found in a supplementary note appended to this chapter.

As to the arrangement of the material the committee gives below four plans which may be suggestive and helpful to teachers in arranging their courses. No one of them is, however, recommended as superior to the others.

PLAN A.

Tenth year: Plane demonstrative geometry, algebra.
Eleventh year: Statistics, trigonometry, solid geometry.
Twelfth year: The calculus, other elective.

PLAN B.

Tenth year: Plane demonstrative geometry, solid geometry.
Eleventh year: Algebra, trigonometry, statistics.
Twelfth year: The calculus, other elective.

PLAN C.

Tenth year: Plane demonstrative geometry, trigonometry.
Eleventh year: Solid geometry, algebra, statistics.
Twelfth year: The calculus, other elective.

PLAN D.

Tenth year: Algebra, statistics, trigonometry.
Eleventh year: Plane and solid geometry.
Twelfth year: The calculus, other elective.

Additional information on ways of organizing this material will be found in Chapter XII on Mathematics in Experimental Schools.

SUPPLEMENTARY NOTE ON THE CALCULUS AS A HIGH-SCHOOL SUBJECT.

In connection with the recommendations concerning the calculus, such questions as the following may arise: Why should a college subject like this be added to a high-school program? How can it be expected that high-school teachers will have the necessary training and attainments for teaching it? Will not the attempt to teach such a subject result in loss of thoroughness in earlier work? Will anything be gained beyond a mere smattering of the theory? Will the boy or girl ever use the information or training secured? The subsequent remarks are intended to answer such objections as these and to develop more fully the point of view of the committee in recommending the inclusion of elementary work in the calculus in the high-school program.

By the calculus we mean for the present purpose a study of *rates of change*. In nature all things change. How much do they change in a given time? How fast do they change? Do they increase or decrease? When does a changing quantity become largest or smallest? How can rates of changing quantities be compared?

These are some of the questions which lead us to study the elementary calculus. Without its essential principles these questions can not be answered with definiteness.

The following are a few of the specific replies that might be given in answer to the questions listed at the beginning of this note: The difficulties of the college calculus lie mainly outside the boundaries of the proposed work. The elements of the subject present less difficulty than many topics now offered in advanced algebra. It is not implied that in the near future many secondary-school teachers will have any occasion to teach the elementary calculus. It is the culminating subject in a series which only relatively strong schools will complete and only then for a selected group of students. In such schools there should always be teachers competent to teach the elementary calculus here intended. No superficial study of calculus should be regarded as justifying any substantial sacrifice of thoroughness. In the judgment of the committee the introduction of elementary calculus necessarily includes sufficient

algebra and geometry to compensate for whatever diversion of time from these subjects would be implied.

The calculus of the algebraic polynominal is so simple that a boy or girl who is capable of grasping the idea of limit, of slope, and of velocity, may in a brief time gain an outlook upon the field of mechanics and other exact sciences, and acquire a fair degree of facility in using one of the most powerful tools of mathematics, together with the capacity for solving a number of interesting problems. Moreover, the fundamental ideas involved, quite aside from their technical applications, will provide valuable training in understanding and analyzing quantitative relations—and such training is of value to everyone.

The following typical extracts from an English text intended for use in secondary schools may be quoted:

“It has been said that the calculus is that branch of mathematics which schoolboys understand and senior wranglers fail to comprehend. * * * So long as the graphic treatment and practical applications of the calculus are kept in view, the subject is an extremely easy and attractive one. Boys can be taught the subject early in their mathematical career, and there is no part of their mathematical training that they enjoy better or which opens up to them wider fields of useful exploration. * * * The phenomena must first be known practically and then studied philosophically. To reverse the order of these processes is impossible.”

The text in question, after an interesting historical sketch, deals with such problems as the following:

A train is going at the rate of 40 miles an hour. Represent this graphically.

At what rate is the length of the daylight increasing or decreasing on December 31, March 26, etc.? (From tabular data.)

A cart going at the rate of 5 miles per hour passes a milestone, and 14 minutes afterwards a bicycle, going in the same direction at 12 miles an hour, passes the same milestone. Find when and where the bicycle will overtake the cart.

A man has 4 miles of fencing wire and wishes to fence in a rectangular piece of prairie land through which a straight river flows, the bank of the stream being utilized as one side of the inclosure. How can he do this so as to inclose as much land as possible?

A circular tin canister closed at both ends has a surface area of 100 square centimeters. Find the greatest volume it can contain.

Post-office regulations prescribe that the combined length and girth of a parcel must not exceed 6 feet. Find the maximum volume of a parcel whose shape is a prism with the ends square.

A pulley is fixed 15 feet above the ground, over which passes a rope 30 feet long with one end attached to a weight which can hang freely, and the other end is held by a man at a height of 3 feet from the ground. The man walks horizontally away from beneath the pulley at the rate of 3 feet per second. Find the rate at which the weight rises when it is 10 feet above the ground.

The pressure on the surface of a lake due to the atmosphere is known to be 14 pounds per square inch. The pressure in the liquid x inches below the surface is known to be given by the law $dp/dx=0.036$. Find the pressure in the liquid at a depth of 10 feet.

The arch of a bridge is parabolic in form. It is 5 feet wide at the base and 5 feet high. Find the volume of water that passes through per second in a flood when the water is rushing at the rate of 10 feet per second.

A force of 20 tons compresses the spring buffer of a railway stop through 1 inch, and the force is always proportional to the compression produced. Find the work done by a train which compresses a pair of such stops through 6 inches.

These may illustrate the aims and point of view of the proposed work. It will be noted that not all of them involve calculus, but those that do not lead up to it.

Chapter V.

COLLEGE ENTRANCE REQUIREMENTS.

The present chapter is concerned with a study of topics and training in elementary mathematics that will have most value as preparation for college work, and with recommendations of definitions of college-entrance requirements in elementary algebra and plane geometry.

General considerations.—The primary purpose of college-entrance requirements is to test the candidate's ability to benefit by college instruction. This ability depends, so far as our present inquiry is concerned, upon (1) general intelligence, intellectual maturity and mental power; (2) specific knowledge and training required as preparation for the various courses of the college curriculum.

Mathematical ability appears to be a sufficient but not a necessary condition for general intelligence.¹ For this, as well as for other reasons, it would appear that *college-entrance requirements in mathematics should be formulated primarily on the basis of the special knowledge and training required for the successful study of courses which the student will take in college.*

The separation of prospective college students from the others in the early years of the secondary school is neither feasible nor desirable. It is therefore obvious that secondary-school courses in mathematics can not be planned with specific reference to college-entrance requirements. Fortunately there appears to be no real conflict of interest between those students who ultimately go to college and those who do not, so far as mathematics is concerned. It will be made clear in what follows that a course in this subject, covering from two to two and one-half years in a standard four-year high school, and so planned as to give the most valuable mathematical training which the student is capable of receiving, will provide adequate preparation for college work.

Topics to be included in high-school courses.—In the selection of material of instruction for high-school courses in mathematics, its value as preparation for college courses in mathematics need not be specifically considered. Not all college students study mathematics; it is therefore reasonable to expect college departments in this sub-

¹ A recent investigation made by the department of psychology at Dartmouth College showed that all students of high rank in mathematics had a high rating on general intelligence; the converse was not true, however.

ject to adjust themselves to the previous preparation of their students. Nearly all college students do, however, study one or more of the physical sciences (astronomy, physics, chemistry) and one or more of the social sciences (history, economics, political science, sociology). Entrance requirements must therefore insure adequate mathematical preparation in these subjects. Moreover, it may be assumed that adequate preparation for these two groups of subjects will be sufficient for all other subjects for which the secondary schools may be expected to furnish the mathematical prerequisites.

The national committee recently conducted an investigation for the purpose of securing information as to the content of high-school courses of instruction most desirable from the point of view of preparation for college work. A number of college teachers, prominent in their respective fields, were asked to assign to each of the topics in the following table an estimate of its value as preparation for the elementary courses in their respective subjects. Table I gives a summary of the replies, arranged in two groups—"Physical sciences," including astronomy, physics, and chemistry; and "Social sciences," including history, economics, sociology, and political science.

The high value attached to the following topics is significant: Simple formulas—their meaning and use; the linear and quadratic functions and variation; numerical trigonometry; the use of logarithms and other topics relating to numerical computation; statistics. These all stand well above such standard requirements as arithmetic and geometric progression, binomial theorem, theory of exponents, simultaneous equations involving one or two quadratic equations, and literal equations.

These results would seem to indicate that a modification of present college-entrance requirements in mathematics is desirable from the point of view of college teachers in departments other than mathematics. It is interesting to note how closely the modifications suggested by this inquiry correspond to the modifications in secondary-school mathematics foreshadowed by the study of needs of the high-school pupil irrespective of his possible future college attendance. The recommendations made in Chapter II that functional relationship be made the "underlying principle of the course," that the meaning and use of simple formulas be emphasized, that more attention be given to numerical computation (especially to the methods relating to approximate data), and that work on numerical trigonometry and statistics be included, have received widespread approval throughout the country. That they should be in such close accord with the desires of college teachers in the fields of physical and social sciences as to entrance requirements is striking. We find here the justification for the belief expressed earlier in this report that there is no real conflict between the needs of students who ultimately go to college and those who do not.

TABLE 1.—Value of topics as preparation for elementary college courses.

[In the headings of the table, E=essential, C=of considerable value, S=of some value, O=of little or no value, N=number of replies received. The figures in the first four columns of each group are percentages of the number of replies received.]

	Physical sciences.					Social sciences.				
	E.	C.	S.	O.	N.	E.	C.	S.	O.	N.
Negative numbers—their meaning and use.....	79	5	10	5	39	45	17	22	17	18
Imaginary numbers—their meaning and use.....	23	21	25	31	39	13	13	37	37	16
Simple formulas—their meaning and use.....	93	5	2	....	41	47	26	21	5	19
Graphic representation of statistical data.....	57	25	15	3	40	57	24	14	5	21
Graphs (mathematical and empirical):										
(a) As a method of representing dependence.....	62	16	22	....	37	15	54	15	15	13
(b) As a method of solving problems.....	45	20	28	6	25	18	18	46	18	11
The linear function, $y=mx+b$	78	14	8	....	37	29	29	14	29	14
The quadratic function, $y=ax^2+bx+c$	59	21	17	3	34	8	8	33	50	12
Equations: Problems leading to—										
Linear equations in one unknown.....	98	2	....	....	41	40	7	20	33	15
Quadratic equations in one unknown.....	78	15	5	2	40	31	8	8	54	13
Simultaneous linear equations in 2 unknowns.....	71	24	3	3	38	33	8	....	58	12
Simultaneous linear equations in more than 2 unknowns.....	43	29	23	6	35	8	8	17	67	12
One quadratic and one linear equation in 2 unknowns ..	40	24	27	9	33	....	9	9	82	11
Two quadratic equations in 2 unknowns.....	31	19	28	22	32	....	9	....	91	11
Equations of higher degree than the second.....	10	82	32	26	31	....	....	9	91	11
Literal equations (other than formulas).....	43	18	32	7	28	....	10	40	50	10
Ratio and proportion.....	84	8	3	5	39	37	26	32	5	19
Variation.....	50	13	20	17	30	17	33	25	25	12
Numerical computation:										
With approximate data—rational use of significant figures.....	61	36	....	3	39	40	27	20	13	12
Short-cut methods.....	27	38	24	10	37	29	35	23	12	17
Use of logarithms.....	62	29	7	2	42	12	29	29	29	17
Use of other tables to facilitate computation.....	24	45	26	5	38	18	29	41	12	17
Use of slide rule.....	24	39	26	12	38	11	39	28	22	18
Theory of exponents.....	36	31	25	8	36	....	21	21	57	14
Theory of logarithms.....	34	26	21	18	38	7	13	20	60	15
Arithmetic progression.....	16	32	38	13	37	23	29	12	35	17
Geometric progression.....	19	27	40	14	37	23	25	18	35	17
Binomial theorem.....	35	32	18	13	37	13	20	27	40	15
Probability.....	9	82	41	19	32	20	35	35	10	20
Statistics:										
Meaning and use of elementary concepts.....	23	28	31	17	29	55	36	5	5	22
Frequency distributions and frequency curves.....	15	19	35	32	26	47	33	10	10	21
Correlation.....	11	18	39	32	28	33	47	14	5	21
Numerical trigonometry:										
Use of sine, cosine, and tangent in the solution of simple problems involving right triangles.....	68	21	3	8	38	....	....	25	75	12
Demonstrative geometry.....	68	15	12	6	34	....	21	43	36	14
Plane trigonometry (usual course).....	57	27	11	5	37	8	23	31	38	13
Analytic geometry:										
Fundamental conceptions and methods in the plane. ...	32	45	19	3	31	....	15	38	46	13
Systematic treatment of—										
Straight line.....	34	37	20	9	35	9	9	18	64	11
Circle.....	29	43	20	9	35	....	18	9	73	11
Conic sections.....	18	41	26	15	34	....	9	18	73	11
Polar coordinates.....	18	26	41	15	34	....	....	18	82	11
Empirical curves and fitting curves to observations .	12	38	38	12	34	8	....	25	67	12

TABLE 2.—Topics in order of value as preparation for elementary college courses.

[The figures in the column headed "E" are taken from Table 1, taking in each case the higher of the two "E" ratings there given. The column headed "E+C" gives in each case the sum of the two ratings for "E" and "C." An asterisk indicates that the topic in question is now included in the definitions of the college entrance examination board.²]

	E.	E+C.
*Linear equations in one unknown.....	98	100
Simple formulas—their meaning and use.....	93	98
*Ratio and proportion.....	84	92
*Negative numbers—their meaning and use.....	79	81
*Quadratic equations in one unknown.....	78	93
The linear function: $y=mx+b$	78	92
*Simultaneous linear equations in two unknowns.....	71	95
Numerical trigonometry—the use of the sine, cosine, and tangent in the solution of simple problems involving right triangles.....	68	89
*Demonstrative geometry.....	68	83
Use of logarithms in computation.....	62	91
*Graphs as a method of representing dependence.....	62	78
Computation with approximate data—rational use of significant figures.....	61	97
The quadratic function: $y=ax^2+bx+c$	59	80
Plane trigonometry—usual course.....	57	84
Graphic representation of statistical data.....	57	82
Statistics—meaning and use of elementary concepts.....	55	91
Variation.....	50	63
Statistics—frequency distributions and curves.....	47	80
*Graphic solution of problems.....	45	65
*Literal equations.....	43	61
*Simultaneous linear equations in more than 2 unknowns.....	43	72
*Simultaneous equations, one quadratic, one linear.....	40	64
*Theory of exponents.....	36	67
*Binomial theorem.....	35	67
Analytic geometry of the straight line.....	34	71
Theory of logarithms.....	34	60
Statistics—correlation.....	33	80
Analytic geometry—fundamental conceptions.....	32	77
*Simultaneous quadratic equations.....	31	50
Analytic geometry of the circle.....	29	72
Short-cut methods of computation.....	29	65
Use of tables in computation (other than logarithms).....	24	69
Use of slide rule.....	24	63
Imaginary numbers.....	24	44
*Arithmetic progression.....	23	52
*Geometric progression.....	23	48
Probability.....	20	55
Conic sections.....	18	59
Polar coordinates.....	18	44
Empirical curves and fitting curves to observations.....	12	50
Equations of higher degree than the second.....	10	42

² The list includes all the requirements of the college entrance examination board except those relating to algebraic technique. The topic of "Negative numbers" has also been given an asterisk, as it is clearly implied, though not explicitly mentioned, in the C. E. E. B. definitions.

The attitude of the colleges.—Mathematical instruction in this country is at present in a period of transition. While a considerable number of our most progressive schools have for several years given courses embodying most of the recommendations contained in Chapters II, III, and IV of the present report, the large majority of schools are still continuing the older types of courses or are only just beginning to introduce modifications. The movement toward reorganization is strong, however, throughout the country, not only in the standard four-year high schools but also in the newer junior high schools.

During this period of transition it should be the policy of the colleges, while exerting a desirable steadying influence, to help the movement toward a sane reorganization. In particular they should take care not to place obstacles in the way of changes which are

clearly in the interest of more effective college preparation, as well as of better general education.

College-entrance requirements will continue to exert a powerful influence on secondary-school teaching. Unless they reflect the spirit of sound progressive tendencies, they will constitute a serious obstacle.

In the present chapter revised definitions of college-entrance requirements in plane geometry and elementary algebra are presented. So far as plane geometry is concerned, the problem of definition is comparatively simple. The proposed definition of the requirement in plane geometry does not differ from the one now in effect under the college entrance examination board. A list of propositions and constructions has however been prepared, and is given in the next chapter for the guidance of teachers and examiners.

In elementary algebra a certain amount of flexibility is obviously necessary both on account of the quantitative differences among colleges and of the special conditions attending a period of transition. The former differences are recognized by the proposal of a minor and a major requirement in elementary algebra. The second of these includes the first and is intended to correspond with the two-unit rating of the C. E. E. B.

In connection with this matter of units, the committee wishes particularly to disclaim any emphasis upon a special number of years or hours. The unit terminology is doubtless too well established to be entirely ignored in formulating college-entrance requirements, but the standard definition of unit³ has never been precise, and will now become much less so with the inclusion of the newer six-year program. A time allotment of 4 or 5 hours per week in the seventh year can certainly not have the same weight as the same number of hours in the twelfth year, and the disparity will vary with different subjects. *What is really important is the amount of subject matter and the quality of work done in it.* The "unit" can not be anything but a crude approximation to this. The distribution of time in the school program should not be determined by any arbitrary unit scale.

As a further means of securing reasonable flexibility, the committee recommends that for a limited time—say five years—the option be offered between examinations based on the old and on the new definitions, so far as differences between them may make this desirable.

In view of the changes taking place at the present time in mathematical courses in secondary schools, and the fact that college-entrance

³ The following definition, formulated by the National Committee on Standards of Colleges and Secondary Schools, has been given the approval of the C. E. E. B. "A unit represents a year's study in any subject in a secondary school, constituting approximately a quarter of a full year's work. A four-year secondary school curriculum should be regarded as representing not more than 16 units of work."

requirements should as soon as possible reflect desirable changes and assist in their adoption, the national committee recommends that either the American Mathematical Society or the Mathematical Association of America (or both) maintain a permanent committee on college-entrance requirements in mathematics, such a committee to work in close cooperation with other agencies which are now or may in the future be concerned in a responsible way with the relations between colleges and secondary schools.

DEFINITION OF COLLEGE ENTRANCE REQUIREMENTS.

ELEMENTARY ALGEBRA.

Minor requirement.—The meaning, use, and evaluation (including the necessary transformations) of simple formulas involving ideas with which the student is familiar and the derivation of such formulas from rules expressed in words.

The dependence of one variable upon another. Numerous illustrations and problems involving the linear function $y = mx + b$. Illustrations and problems involving the quadratic function $y = kx^2$.

The graph and graphic representations in general; their construction and interpretation, including the representation of statistical data and the use of the graph to exhibit dependence.

Positive and negative numbers; their meaning and use.

Linear equations in one unknown quantity; their use in solving problems.

Sets of linear equations involving two unknown quantities; their use in solving problems.

Ratio, as a case of simple fractions; proportion without the theorems on alternation, etc.; and simple cases of variation.

The essentials of algebraic technique. This should include—

(a) The four fundamental operations.

(b) Factoring of the following types: Common factors of the terms of a polynomial; the difference of two squares; trinomials of the second degree (including the square of a binomial) that can be easily factored by trial.

(c) Fractions, including complex fractions of a simple type.

(d) Exponents and radicals. The laws for positive integral exponents; the meaning and use of fractional exponents, but not the formal theory. The consideration of radicals may be confined to the simplification of expressions of the form $\sqrt{a^2b}$ and $\sqrt{a/b}$ and to the evaluation of simple expressions involving the radical sign. A process for extracting the square root of a number should be included but not the process for extracting the square root of a polynomial.

Numerical trigonometry. The use of the sine, cosine, and tangent in solving right triangles. The use of three or four place tables of natural functions.

Major requirement.—In addition to the minor requirement as specified above, the following should be included:

Illustrations and problems involving the quadratic function $y = ax^2 + bx + c$.

Quadratic equations in one unknown; their use in solving problems.

Exponents and radicals. Zero and negative exponents, and more extended treatment of fractional exponents. Rationalizing denominators. Solution of simple types of radical equations.

The use of logarithmic tables in computation without the formal theory.

Elementary statistics, including a knowledge of the fundamental concepts and simple frequency distributions, with graphic representations of various kinds.

The binomial theorem for positive integral exponents less than 8; with such applications as compound interest.

The formula for the n th term, and the sum of n terms, of arithmetic and geometric progressions, with applications.

Simultaneous linear equations in three unknown quantities and simple cases of simultaneous equations involving one or two quadratic equations; their use in solving problems.

Drill in algebraic manipulation should be limited, particularly in the minor requirement, by the purpose of securing a thorough understanding of important principles and facility in carrying out those processes which are fundamental and of frequent occurrence either in common life or in the subsequent courses that a substantial proportion of the pupils will study. Skill in manipulation must be conceived of throughout as a means to an end, not as an end in itself. Within these limits, skill and accuracy in algebraic technique are of prime importance, and drill in this subject should be extended far enough to enable students to carry out the fundamentally essential processes accurately and with reasonable speed.

The consideration of literal equations, when they serve a significant purpose, such as the transformation of formulas, the derivation of a general solution (as of the quadratic equation), or the proof of a theorem, is important. As a means for drill in algebraic technique they should be used sparingly.

The solution of problems should offer opportunity throughout the course for considerable arithmetical and computational work. The conception of algebra as an extension of arithmetic should be made significant both in numerical applications and in elucidating algebraic

principles. Emphasis should be placed upon the use of common sense and judgment in computing from approximate data, especially with regard to the number of figures retained, and on the necessity for checking the results. The use of tables to facilitate computation (such as tables of squares and square roots, of interest, and of trigonometric functions) should be encouraged.

PLANE GEOMETRY.

The usual theorems and constructions of good textbooks, including the general properties of plane rectilinear figures; the circle and the measurement of angles; similar polygons; areas; regular polygons and the measurement of the circle. The solution of numerous original exercises, including locus problems. Applications to the mensuration of lines and plane surfaces.

The scope of the required work in plane geometry is indicated by the List of Fundamental Propositions and Constructions, which is given in the next chapter. This list indicates in Section I the type of proposition which, in the opinion of the committee, may be assumed without proof or given informal treatment. Section II contains 52 propositions and 19 constructions which are regarded as so fundamental that they should constitute the common minimum of all standard courses in plane geometry. Section III gives a list of subsidiary theorems which suggests the type of additional propositions that should be included in such courses.

College-entrance examinations.—College-entrance examinations exert in many schools, and especially throughout the eastern section of the country, an influence on secondary school teaching which is very far-reaching. It is, therefore, well within the province of the national committee to inquire whether the prevailing type of examination in mathematics serves the best interests of mathematical education and of college preparation.

The reason for the almost controlling influence of entrance examinations in the schools referred to is readily recognized. Schools sending students to such colleges for men as Harvard, Yale, and Princeton, to the larger colleges for women, or to any institution where examinations form the only or prevailing mode of admission, inevitably direct their instruction toward the entrance examination. This remains true even if only a small percentage of the class intends to take these examinations, the point being that the success of a teacher is often measured by the success of his or her students in these examinations.

In the judgment of the committee, the prevailing type of entrance examination in algebra is primarily a test of the candidate's skill in

formal manipulation, and not an adequate test of his understanding or of his ability to apply the principles of the subject. Moreover, it is quite generally felt that the difficulty and complexity of the formal manipulative questions, which have appeared on recent papers set by colleges and by such agencies as the College Entrance Examination Board, has often been excessive. As a result, teachers preparing pupils for these examinations have inevitably been led to devote an excessive amount of time to drill in algebraic technique, without insuring an adequate understanding of the principles involved. Far from providing the desired facility, this practice has tended to impair it. For "practical skill, modes of effective technique, can be intelligently, nonmechanically used only when intelligence has played a part in their acquisition." (Dewey, *How We Think*, p. 52.)

Moreover, it must be noted that authors and publishers of textbooks are under strong pressure to make their content and distribution of emphasis conform to the prevailing type of entrance examination. Teachers in turn are too often unable to rise above the textbook. An improvement in the examinations in this respect will cause a corresponding improvement in textbooks and in teaching.

On the other hand, the makers of entrance examinations in algebra cannot be held solely responsible for the condition described. Theirs is a most difficult problem. Not only can they reply that as long as algebra is taught as it is, examinations must be largely on technique,⁴ but they can also claim with considerable force that technical facility is the only phase of algebra that can be fairly tested by an examination; that a candidate can rarely do himself justice amid unfamiliar surroundings and subject to a time limit on questions involving real thinking in applying principles to concrete situations; and that we must face here a real limitation on the power of an examination to test attainment. Many, and perhaps most, teachers will agree with this claim. Past experience is on their side; no generally accepted and effective "power test" in mathematics has as yet been devised and, if devised, it might not be suitable for use under conditions prevailing during an entrance examination.

But if it is true that the power of an examination is thus inevitably limited, the wisdom and fairness of using it as the sole means of admission to college is surely open to grave doubt. That many unqualified candidates are admitted under this system is not open to question. Is it not probable that many qualified candidates are at the same time excluded? If the entrance examination is a fair test of manipulative skill only, should not the colleges use additional means for learning something about the candidate's other abilities and qualifications?

⁴ The vicious circle is now complete. Algebra is taught mechanically because of the character of the entrance examination; the examination, in order to be fair, must conform to the character of the teaching.

Some teachers believe that an effective "power test" in mathematics is possible. Efforts to devise such a test should receive every encouragement.

In the meantime, certain desirable modifications of the prevailing type of entrance examinations are possible. The college entrance examination board recently appointed a committee to consider this question and a conference⁵ on this subject was held by representatives of the college entrance examination board, members of the national committee, and others. The following recommendations are taken from the report of the committee just referred to:

Fully one-third of the questions should be based on topics of such fundamental importance that they will have been thoroughly taught, carefully reviewed, and deeply impressed by effective drill. . . . They should be of such a degree of difficulty that any pupil of regular attendance, faithful application, and even moderate ability may be expected to answer them satisfactorily.

There should be both simple and difficult questions testing the candidate's ability to apply the principles of the subject. The early ones of the easy questions should be really easy for the candidate of good average ability who can do a little thinking under the stress of an examination; but even these questions should have genuine scientific content.

There should be a substantial question which will put the best candidates on their mettle, but which is not beyond the reach of a fair proportion of the really good candidates. This question should test the normal workings of a well-trained mind. It should be capable of being thought out in the limited time of the examination. It should be a test of the candidate's grasp and insight—not a catch question or a question of unfamiliar character making extraordinary demands on the critical powers of the candidate, or one the solution of which depends on an inspiration. Above all, this question should lie near to the heart of the subject as all well-prepared candidates understand the subject.

As a rule, a question should consist of a single part and be framed to test one thing—not pieced together out of several unrelated and perhaps unequally important parts.

Each question should be a substantial test on the topic or topics which it represents. It is, however, in the nature of the case impossible that all questions be of equal value.

Care should be used that the examination be not too long. * * * The examiner should be content to ask questions on the important topics, so chosen that their answers will be fair to the candidate and instructive to the readers; and beyond this merely to sample the candidate's knowledge on the minor topics.

The national committee suggests the following additional principles: The examination as a whole should, as far as practicable, reflect the principle that algebraic technique is a means to an end, and not an end in itself.

Questions that require of the candidate skill in algebraic manipulation beyond the needs of actual application should be used very sparingly.

An effort should be made to devise questions which will fairly test the candidate's understanding of principles and his ability to apply them, while involving a minimum of manipulative complexity.

⁵ At this conference the following vote was unanimously passed: "Voted, that the results of examinations (of the college entrance examination board), be reported by letters A, B, C, D, E and that the definition of the groups represented by these letters should be determined in each year by the distribution of ability in a standard group of papers representing widely both public and private schools."

The examinations in geometry should be definitely constructed to test the candidate's ability to draw valid conclusions rather than his ability to memorize an argument.

A chapter on mathematical terms and symbols is included in this report.⁶ It is hoped that examining bodies will be guided by the recommendations there made relative to the use of terms and symbols in elementary mathematics.

The college entrance examination board, early in 1921, appointed a commission to recommend such revisions as might seem necessary in the definitions of the requirements in the various subjects of elementary mathematics. The recommendations contained in the present chapter have been laid before this commission. It is hoped that the commission's report, when it is finally made effective by action of the college entrance examination board and the various colleges concerned, will give impetus to the reorganization of the teaching of elementary mathematics along the lines recommended in the report of the national committee.

⁶ See Ch. VIII.

Chapter VI.

LISTS OF PROPOSITIONS IN PLANE AND SOLID GEOMETRY.

General basis of the selection of material.—The subcommittee appointed to prepare a list of basal propositions made a careful study of a number of widely used textbooks on geometry. The bases of selection of the propositions were two: (1) The extent to which the propositions and corollaries were used in subsequent proofs of important propositions and exercises; (2) the value of the propositions in completing important pieces of theory. Although the list of theorems and problems is substantially the same in nearly all textbooks in general use in this country, the wording, the sequence, and the methods of proof vary to such an extent as to render difficult a definite statement as to the number of times a proposition is used in the several books examined. A tentative table showed, however, less variation than might have been anticipated.

Classification of propositions.—The classification of propositions is not the same in plane geometry as in solid geometry. This is partly due to the fact that it is generally felt that the student should limit his construction work to figures in a plane and in which the compasses and straight edge are sufficient. The propositions have been divided as follows:

Plane geometry: I. Assumptions and theorems for informal treatment; II. Fundamental theorems and constructions: A. Theorems, B. Constructions; III. Subsidiary theorems.

Solid geometry: I. Fundamental theorems; II. Fundamental propositions in mensuration; III. Subsidiary theorems; IV. Subsidiary propositions in mensuration.

PLANE GEOMETRY.

I. *Assumptions and theorems for informal treatment.*—This list contains propositions which may be assumed without proof (postulates), and theorems which it is permissible to treat informally. Some of these propositions will appear as definitions in certain methods of treatment. Moreover, teachers should feel free to require formal proofs in certain cases, if they desire to do so. The precise wording given is not essential, nor is the order in which the propositions are here listed. The list should be taken as representative of

the type of propositions which may be assumed, or treated informally, rather than as exhaustive.

1. Through two distinct points it is possible to draw one straight line, and only one.
 2. A line segment may be produced to any desired length.
 3. The shortest path between two points is the line segment joining them.
 4. One and only one perpendicular can be drawn through a given point to a given straight line.
 5. The shortest distance from a point to a line is the perpendicular distance from the point to the line.
 6. From a given center and with a given radius one and only one circle can be described in a plane.
 7. A straight line intersects a circle in at most two points.
 8. Any figure may be moved from one place to another without changing its shape or size.
 9. All right angles are equal.
 10. If the sum of two adjacent angles equals a straight angle, their exterior sides form a straight line.
 11. Equal angles have equal complements and equal supplements.
 12. Vertical angles are equal.
 13. Two lines perpendicular to the same line are parallel.
 14. Through a given point not on a given straight line, one straight line, and only one, can be drawn parallel to the given line.
 15. Two lines parallel to the same line are parallel to each other.
 16. The area of a rectangle is equal to its base times its altitude.
- 17-18. Each a ray + each segment has only one bisector.*

II. Fundamental theorems and constructions.—It is recommended that theorems and constructions (other than originals) to be proved on college entrance examinations be chosen from the following list. Originals and other exercises should be capable of solution by direct reference to one or more of these propositions and constructions. It should be obvious that any course in geometry that is capable of giving adequate training must include considerable additional material. The order here given is not intended to signify anything as to the order of presentation. It should be clearly understood that certain of the statements contain two or more theorems, and that the precise wording is not essential. The committee favors entire freedom in statement and sequence.

A. THEOREMS.

1. Two triangles are congruent if ¹ (a) two sides and the included angle of one are equal, respectively, to two sides and the included angle of the other; (b) two angles and a side of one are equal, respectively, to two angles and the corresponding side of the other; (c) the three sides of one are equal, respectively, to the three sides of the other.
2. Two right triangles are congruent if the hypotenuse and one other side of one are equal, respectively, to the hypotenuse and another side of the other.
3. If two sides of a triangle are equal, the angles opposite these sides are equal; and conversely.²
4. The locus of a point (in a plane) equidistant from two given points is the perpendicular bisector of the line segment joining them.

¹ Teachers should feel free to separate this theorem into three distinct theorems and to use other phraseology for any such proposition. For example, in 1, "Two triangles are equal if" * * * "a triangle is determined by * * *," etc. Similarly in 2, the statement might read: "Two right triangles are congruent if, beside the right angles, any two parts (not both angles) in the one are equal to corresponding parts of the other."

² It should be understood that the converse of a theorem need not be treated in connection with the theorem itself, it being sometimes better to treat it later. Furthermore a converse may occasionally be accepted as true in an elementary course, if the necessity for proof is made clear. The proof may then be given later.

5. The locus of a point equidistant from two given intersecting lines is the pair of lines bisecting the angles formed by these lines.

6. When a transversal cuts two parallel lines, the alternate interior angles are equal; and conversely.

7. The sum of the angles of a triangle is two right angles.

8. A parallelogram is divided into congruent triangles by either diagonal.

9. Any (convex) quadrilateral is a parallelogram (a) if the opposite sides are equal; (b) if two sides are equal and parallel.

10. If a series of parallel lines cut off equal segments on one transversal, they cut off equal segments on any transversal.

11. (a) The area of a parallelogram is equal to the base times the altitude.

(b) The area of a triangle is equal to one-half the base times the altitude.

(c) The area of a trapezoid is equal to half the sum of its bases times its altitude.

(d) The area of a regular polygon is equal to half the product of its apothem and perimeter.

12. (a) If a straight line is drawn through two sides of a triangle parallel to the third side, it divides these sides proportionally.

(b) If a line divides two sides of a triangle proportionally, it is parallel to the third side. (Proofs for commensurable cases only.)

(c) The segments cut off on two transversals by a series of parallels are proportional.

13. Two triangles are similar if (a) they have two angles of one equal, respectively, to two angles of the other; (b) they have an angle of one equal to an angle of the other and the including sides are proportional; (c) their sides are respectively proportional.

14. If two chords intersect in a circle, the product of the segments of one is equal to the product of the segments of the other.

15. The perimeters of two similar polygons have the same ratio as any two corresponding sides.

16. Polygons are similar, if they can be decomposed into triangles which are similar and similarly placed; and conversely.

17. The bisector of an (interior or exterior) angle of a triangle divides the opposite side (produced if necessary) into segments proportional to the adjacent sides.

18. The areas of two similar triangles (or polygons) are to each other as the squares of any two corresponding sides.

19. In any right triangle the perpendicular from the vertex of the right angle on the hypotenuse divides the triangle into two triangles each similar to the given triangle.

20. In a right triangle the square on the hypotenuse is equal to the sum of the squares on the other two sides.

21. In the same circle, or in equal circles, if two arcs are equal, their central angles are equal; and conversely.

22. In any circle angles at the center are proportional to their intercepted arcs. (Proof for commensurable case only.)

23. In the same circle or in equal circles, if two chords are equal their corresponding arcs are equal; and conversely.

24. (a) A diameter perpendicular to a chord bisects the chord and the arcs of the chord. (b) A diameter which bisects a chord (that is not a diameter) is perpendicular to it.

25. The tangent to a circle at a given point is perpendicular to the radius at that point; and conversely.

26. In the same circle or in equal circles, equal chords are equally distant from the center; and conversely.

27. An angle inscribed in a circle is equal to half the central angle having the same arc.

28. Angles inscribed in the same segment are equal.

29. If a circle is divided into equal arcs, the chords of these arcs form a regular inscribed polygon and tangents at the points of division form a regular circumscribed polygon.

30. The circumference of a circle is equal to $2\pi r$. (Informal proof only.)

31.³ The area of a circle is equal to πr^2 . (Informal proof only.)

The treatment of the mensuration of the circle should be based upon related theorems concerning regular polygons, but it should be informal as to the limiting processes involved. The aim should be an understanding of the concepts involved, so far as the capacity of the pupil permits.

³ The total number of theorems given in this list when separated, as will probably be found advantageous in teaching this number including the converses indicated, is 52.

B. CONSTRUCTIONS.

1. Bisect a line segment and draw the perpendicular bisector.
2. Bisect an angle.
3. Construct a perpendicular to a given line through a given point.
4. Construct an angle equal to a given angle.
5. Through a given point draw a straight line parallel to a given straight line.
6. Construct a triangle, given (a) the three sides; (b) two sides and the included angle; (c) two angles and the included side.
7. Divide a line segment into parts proportional to given segments.
8. Given an arc of a circle, find its center.
9. Circumscribe a circle about a triangle.
10. Inscribe a circle in a triangle.
11. Construct a tangent to a circle through a given point.
12. Construct the fourth proportional to three given line segments.
13. Construct the mean proportional between two given line segments.
14. Construct a triangle (polygon) similar to a given triangle (polygon).
15. Construct a triangle equal to a given polygon.
16. Inscribe a square in a circle.
17. Inscribe a regular hexagon in a circle.

III. *Subsidiary list of propositions.*—The following list of propositions is intended to suggest some of the additional material referred to in the introductory paragraph of Section II. It is not intended, however, to be exhaustive; indeed, the committee feels that teachers should be allowed considerable freedom in the selection of such additional material, theorems, corollaries, originals, exercises, etc., in the hope that opportunity will thus be afforded for constructive work in the development of courses in geometry.

1. When two lines are cut by a transversal, if the corresponding angles are equal, or if the interior angles on the same side of the transversal are supplementary, the lines are parallel.
2. When a transversal cuts two parallel lines, the corresponding angles are equal, and the interior angles on the same side of the transversal are supplementary.
3. A line perpendicular to one of two parallels is perpendicular to the other also.
4. If two angles have their sides respectively parallel or respectively perpendicular to each other, they are either equal or supplementary.
5. Any exterior angle of a triangle is equal to the sum of the two opposite interior angles.
6. The sum of the angles of a convex polygon of n sides is $2(n-2)$ right angles.
7. In any parallelogram (a) the opposite sides are equal; (b) the opposite angles are equal; (c) the diagonals bisect each other.
8. Any (convex) quadrilateral is a parallelogram, if (a) the opposite angles are equal; (b) the diagonals bisect each other.
9. The medians of a triangle intersect in a point which is two-thirds of the distance from the vertex to the mid-point of the opposite side.
10. The altitudes of a triangle meet in a point.
11. The perpendicular bisectors of the sides of a triangle meet in a point.
12. The bisectors of the angles of a triangle meet in a point.
13. The tangents to a circle from an external point are equal.
- 14.⁴ (a) If two sides of a triangle are unequal, the greater side has the greater angle opposite it, and conversely.
 (b) If two sides of one triangle are equal respectively to two sides of another triangle, but the included angle of the first is greater than the included angle of the second, then the third side of the first is greater than the third side of the second, and conversely.
 (c) If two chords are unequal, the greater is at the less distance from the center, and conversely.

⁴ Such inequality theorems as these are of importance in developing the notion of dependence or functionality in geometry. The fact that they are placed in the "Subsidiary list of propositions" should not imply that they are considered of less educational value than those in List II. They are placed here because they are not "fundamental" in the same sense that the theorems of List II are fundamental.

- (d) The greater of two minor arcs has the greater chord, and conversely.
15. An angle inscribed in a semicircle is a right angle.
16. Parallel lines tangent to or cutting a circle intercept equal arcs on the circle.
17. An angle formed by a tangent and a chord of a circle is measured by half the intercepted arc.
18. An angle formed by two intersecting chords is measured by half the sum of the intercepted arcs.
19. An angle formed by two secants or by two tangents to a circle is measured by half the difference between the intercepted arcs.
20. If from a point without circle a secant and a tangent are drawn, the tangent is the mean proportional between the whole secant and its external segment.
21. Parallelograms or triangles of equal bases and altitudes are equal.
22. The perimeters of two regular polygons of the same number of sides are to each other as their radii and also as their apothems.

SOLID GEOMETRY.

In the following list the precise wording and the sequence are not considered:

I. FUNDAMENTAL THEOREMS.

1. If two planes meet, they intersect in a straight line.
2. If a line is perpendicular to each of two intersecting lines at their point of intersection it is perpendicular to the plane of the two lines.
3. Every perpendicular to a given line at a given point lies in a plane perpendicular to the given line at the given point.
4. Through a given point (internal or external) there can pass one and only one perpendicular to a plane.
5. Two lines perpendicular to the same plane are parallel.
6. If two lines are parallel, every plane containing one of the lines and only one is parallel to the other.
7. Two planes perpendicular to the same line are parallel.
8. If two parallel planes are cut by a third plane, the lines of intersection are parallel.
9. If two angles not in the same plane have their sides respectively parallel in the same sense, they are equal and their planes are parallel.
10. If two planes are perpendicular to each other, a line drawn in one of them perpendicular to their intersection is perpendicular to the other.
11. If a line is perpendicular to a given plane, every plane which contains this line is perpendicular to the given plane.
12. If two intersecting planes are each perpendicular to a third plane, their intersection is also perpendicular to that plane.
13. The sections of a prism made by parallel planes cutting all the lateral edges are congruent polygons.
14. An oblique prism is equal to a right prism whose base is equal to a right section of the oblique prism and whose altitude is equal to a lateral edge of the oblique prism.
15. The opposite faces of a parallelopiped are congruent.
16. The plane passed through two diagonally opposite edges of a parallelopiped divides the parallelopiped into two equal triangular prisms.
17. If a pyramid or a cone is cut by a plane parallel to the base:
 - (a) The lateral edges and the altitude are divided proportionally;
 - (b) The section is a figure similar to the base;
 - (c) The area of the section is to the area of the base as the square of the distance from the vertex is to the square of the altitude of the pyramid or cone.
18. Two triangular pyramids having equal bases and equal altitudes are equal.
19. All points on a circle of a sphere are equidistant from either pole of the circle.
20. On any sphere a point which is at a quadrant's distance from each of two other points not the extremities of a diameter is a pole of the great circle passing through these two points.
21. If a plane is perpendicular to a radius at its extremity on a sphere, it is tangent to the sphere.
22. A sphere can be inscribed in or circumscribed about any tetrahedron.
23. If one spherical triangle is the polar of another, then reciprocally the second is the polar triangle of the first.
24. In two polar triangles each angle of either is the supplement of the opposite side of the other.
25. Two symmetric spherical triangles are equal.

II. FUNDAMENTAL PROPOSITIONS IN MENSURATION.

26. The lateral area of a prism or a circular cylinder is equal to the product of a lateral edge or element, respectively, by the perimeter of a right section.

27. The volume of a prism (including any parallelopiped) or of a circular cylinder is equal to the product of its base by its altitude.

28. The lateral area of a regular pyramid or a right circular cone is equal to half the product of its slant height by the perimeter of its base.

29. The volume of a pyramid or a cone is equal to one-third the product of its base by its altitude.

30. The area of a sphere.

31. The area of a spherical polygon.

32. The volume of a sphere.

III. SUBSIDIARY THEOREMS.

33. If from an external point a perpendicular and obliques are drawn to a plane, (a) the perpendicular is shorter than any oblique; (b) obliques meeting the plane at equal distances from the foot of the perpendicular are equal; (c) of two obliques meeting the plane at unequal distances from the foot of the perpendicular, the more remote is the longer.

34. If two lines are cut by three parallel planes, their corresponding segments are proportional.

35. Between two lines not in the same plane there is one common perpendicular, and only one.

36. The bases of a cylinder are congruent.

37. If a plane intersects a sphere, the line of intersection is a circle.

38. The volume of two tetrahedrons that have a trihedral angle of one equal to a trihedral angle of the other are to each other as the products of the three edges of these trihedral angles.

39. In any polyhedron the number of edges increased by two is equal to the number of vertices increased by the number of faces.

40. Two similar polyhedrons can be separated into the same number of tetrahedrons similar each to each and similarly placed.

41. The volumes of two similar tetrahedrons are to each other as the cubes of any two corresponding edges.

42. The volumes of two similar polyhedrons are to each other as the cubes of any two corresponding edges.

43. If three face angles of one trihedral angle are equal, respectively, to the three face angles of another the trihedral angles are either congruent or symmetric.

44. Two spherical triangles on the same sphere are either congruent or symmetric if (a) two sides and the included angle of one are equal to the corresponding parts of the other; (b) two angles and the included side of one are equal to the corresponding parts of the other; (c) they are mutually equilateral; (d) they are mutually equiangular.

45. The sum of any two face angles of a trihedral angle is greater than the third face angle.

46. The sum of the face angles of any convex polyhedral angle is less than four right angles.

47. Each side of a spherical triangle is less than the sum of the other two sides.

48. The sum of the sides of a spherical polygon is less than 360° .

49. The sum of the angles of a spherical triangle is greater than 180° and less than 540° .

50. There can not be more than five regular polyhedrons.

51. The locus of points equidistant (a) from two given points; (b) from two given planes which intersect.

IV. SUBSIDIARY PROPOSITIONS IN MENSURATION.

52. The volume of a frustum of (a) a pyramid or (b) a cone.

53. The lateral area of a frustum of (a) pyramid or (b) a cone of revolution.

54. The volume of a prismoid (without formal proof).

Chapter VII.

THE FUNCTION CONCEPT IN SECONDARY-SCHOOL MATHEMATICS.¹

In Chapter II, and incidentally in later chapters, considerable emphasis has been placed on the function concept or, better, on the idea of relationship between variable quantities as one of the general ideas that should dominate instruction in elementary mathematics. Since this recommendation is peculiarly open to misunderstanding on the part of teachers, it seems desirable to devote a separate chapter to a rather detailed discussion of what the recommendation means and implies.

It will be seen in what follows that there is no disposition to advocate the teaching of any sort of function *theory*. A prime danger of misconception that should be removed at the very outset is that teachers may think it is the notation and the definitions of such a theory that are to be taught. Nothing could be further from the intention of the committee. Indeed, it seems entirely safe to say that probably the word "function" had best not be used at all in the early courses.

What is desired is that the idea of relationship or dependence between variable quantities be imparted to the pupil by the examination of numerous concrete instances of such relationship. He must be shown the workings of relationships in a large number of cases before the abstract idea of relationship will have any meaning for him. Furthermore, the pupil should be led to form the habit of thinking about the connections that exist between related quantities, not merely because such a habit forms the best foundation for a real appreciation of the theory that may follow later, but chiefly because this habit will enable him to think more clearly about the quantities with which he will have to deal in real life, whether or not he takes any further work in mathematics.

Indeed, the reason for insisting so strongly upon attention to the idea of relationships between quantities is that such relationships do occur in real life in connection with practically all of the quantities with which we are called upon to deal in practice. Whereas there can be little doubt about the small value to the student who does

¹ The first draft of this chapter was prepared for the national committee by E. R. Hedrick, of the University of Missouri. It was discussed at the meeting of the committee, Sept. 2-4, 1920; revised by the author, and again discussed Dec. 29-30, 1920, and is now issued as part of the committee's report.

not go on to higher studies of some of the manipulative processes criticized by the national committee, there can be no doubt at all of the value to all persons of any increase in their ability to see and to foresee the manner in which related quantities affect each other.

To attain what has been suggested, the teacher should have in mind constantly not any definition to be recited by the pupil, not any automatic response to a given cue, not any memory exercise at all, but rather a determination not to pass any instance in which one quantity is related to another, or in which one quantity is determined by one or more others, without calling attention to the fact, and trying to have the student "see how it works." These instances occur in literally thousands of cases in both algebra and geometry. It is the purpose of this chapter to outline in some detail a few typical instances of this character.

RELATIONSHIPS IN ALGEBRA.

The instance of the function idea which usually occurs to one first in algebra is in connection with the study graphs. While this is natural enough, and while it is true that the graph is fundamentally functional in character, the supposition that it furnishes the first opportunity for observing functional relations between quantities betrays a misconception that ought to be corrected.

1. *Use of letters for numbers.*—The very first illustrations given in algebra to show the use of letters in the place of numbers are essentially functional in character. Thus, such relations as $I = prt$ and $A = \pi r^2$, as well as others that are frequently used, are statements of general relationships. These should be used to accustom the student not only to the use of letters in the place of numbers and to the solution of simple numerical problems, but also to the idea, for example, that changes in r affect the value of A . Such questions as the following should be considered: If r is doubled, what will happen to A ? If p is doubled, what will happen to I ? Appreciation of the meaning of such relationships will tend to clarify the entire subject under consideration. Without such an appreciation it may be doubted whether the student has any real grasp of the matter.

2. *Equations.*—Every simple problem leading to an equation in the first part of algebra would be better understood for just such a discussion as that mentioned above. Thus, if two dozen eggs are weighed in a basket which weighs 2 pounds, and if the total weight is found to be 5 pounds, what is the average weight of an egg? If x is the weight in ounces of one egg, the total weight with the 2-pound basket would be $24x + 32$ ounces. If the student will first try the effect of an average weight of 1 ounce, of $1\frac{1}{2}$ ounces, 2 ounces, $2\frac{1}{2}$ ounces, the meaning of the problem will stand out clearly. In

every such problem preliminary trials really amount to a discussion of the properties of a linear function.

3. *Formulas of pure science and of practical affairs.*—The study of formulas as such, aside from their numerical evaluation, is becoming of more and more importance. The actual uses of algebra are not to be found solely nor even principally in the solution of numerical problems for numerical answers. In such formulas as those for falling bodies, levers, etc., the manner in which changes in one quantity cause (or correspond to) changes in another are of prime importance, and their discussion need cause no difficulty whatever. The formulas under discussion here include those formulas of pure science and of practical affairs which are being introduced more and more into our texts on algebra. Whenever such a formula is encountered the teacher should be sure that the students have some comprehension of the effects of changes in one of the quantities upon the other quantity or quantities in the formula.

As a specific instance of such scientific formulas consider, for example, the force F , in pounds, with which a weight W , in pounds, pulls outward on a string (centrifugal force) if the weight is revolved rapidly at a speed v , in feet per second, at the end of a string of length r feet. This force is given by the formula $F = \frac{Wv^2}{32r}$. When such a formula is used the teacher should not be contented with the mere insertion of numerical values for W , v , and r to obtain a numerical value for F .

The advantage obtained from the study of such a formula lies quite as much in the recognition of the behavior of the force when one of the other quantities varies. Thus the student should be able to answer intelligently such questions as the following: If the weight is assumed to be twice as heavy, what is the effect upon the force? If the speed is taken twice as great, what is the effect upon the force? If the radius becomes twice as large, what is the effect upon the force? If the speed is doubled, what change in the weight would result in the same force? Will an increase in the speed cause an increase or a decrease in the force? Will an increase in the radius r cause an increase or a decrease in the force?

As another instance (of a more advanced character) consider the formula for the amount of a sum of money P , at compound interest at r per cent, at the end of n years. This amount may be denoted by A_n . Then we shall have $A_n = P(1+r)^n$. Will doubling P result in doubling A_n ? Will doubling n result in doubling A_n ? Since the compound interest that has accumulated is equal to the difference between P and A_n , will the doubling of r double the interest? Compare the correct answers to these questions with the answers to the similar questions in the case of simple interest, in

which the formula reads $A_n = P + Prn$ and in which the accumulated interest is simply Prn .

The difference between such a study of the effect produced upon one quantity by changes in another and the mere substitution of numerical values will be apparent from these examples.

4. *Formulas of pure algebra.*—Formulas of pure algebra, such as that for $(x+h)^2$, will be better understood and appreciated if accompanied by a discussion of the manner in which changes in h cause changes in the total result. This can be accomplished by discussing such concrete realities as the error made in computing the area of a square field or of a square room when an error has been made in measuring the side of the square. If x is the true length of the side, and if the student assumes various possible values for the error h made in measuring x , he will have a situation that involves some comprehension of the functional workings of the formula mentioned. The same formula relates to such problems as the change from one entry to the next entry in a table of squares.

A similar situation, and a very important one, occurs with the pure algebraic formula for $(x+a)(y+b)$. This formula may be said to govern the question of the keeping of significant figures in finding the product xy . For if a and b represent the uncertainty in x and y , respectively, the uncertainty in the product is given by this formula. The student has much to learn on this score, for the retention of meaningless figures in a product is one of the commonest mistakes of both student and teacher in computational work.

Such formulas occur throughout algebra, and each of them will be illuminated by such a discussion. The formulas for arithmetic and geometric progression, for example, should be studied from a functional standpoint.

5. *Tables.*—The uses of the functional idea in connection with numerical computation have already been mentioned in connection with the formula for a product. Work which appears on the surface to be wholly numerical may be of a distinctly functional character. Thus any table, e. g., a table of squares, corresponds to or is constructed from a functional relation, e. g., for a table of squares, the relation $y = x^2$. The differences in such a table are the differences caused by changes in the values of the independent variable. Thus, the differences in a table of squares are precisely the differences between x^2 and $(x+h)^2$ for various values of x .

6. *Graphs.*—The functional character of graphical representations was mentioned at the beginning of this section. Every graph is obviously a representation of a functional relationship between two or more quantities. What is needed is only to draw attention to this fact and to study each graph from this standpoint. In addition to this, however, it is desirable to point out that functional

relations may be studied directly by means of graphs without the intervention of any algebraic formula. Thus such a graph as a population curve, or a curve representing wind pressure, obviously represents a relationship between two quantities, but there is no known formula in either case. The idea that the three concepts, tables, graphs, algebraic formulas, are all representations of the same kind of connection between quantities, and that we may start in some instances with any of the three, is a most valuable addition to the student's mental equipment, and to his control over the quantities with which he will deal in his daily life.

RELATIONSHIPS IN GEOMETRY.

Thus far the instances mentioned have been largely algebraic, though certain mensuration formulas of geometry have been mentioned. While the mensuration formulas may occur to one first as an illustration of functional concepts in geometry, they are by no means the earliest relationships that occur in that study.

1. *Congruence*.—Among the earliest theorems are those on the congruence of triangles. In any such theorem, the parts necessary to establish congruence evidently determine completely the size of each other part. Thus, two sides and the included angle of a triangle evidently determine the length of the third side. If the student clearly grasps this fact, the meaning of this case of congruence will be more vivid to him, and he will be prepared for its important applications in surveying and in trigonometry. Even if he never studies those subjects, he will nevertheless be able to use his understanding of the situation in any practical cases in which the angle between two fixed rods or beams is to be fixed or is to be determined, in a practical situation such as house building. Other congruence theorems throughout geometry may well be treated in a similar manner.

2. *Inequalities*.—In the theorems regarding inequalities, the functional quality is even more pronounced. Thus, if two triangles have two sides of one equal respectively to two sides of the other, but if the included angle between these sides in the one triangle is greater than the corresponding angle in the other, then the third sides of the triangles are unequal in the same sense. This theorem shows that as one angle grows, the side opposite it grows, if the other sides remain unchanged. A full realization of the fact here mentioned would involve a real grasp of the functional relation between the angle and the side opposite it. Thus, if the angle is doubled, will the side opposite it be doubled? Such questions arise in connection with all theorems on inequalities.

3. *Variations in figures*.—A great assistance to the imagination is gained in certain figures by imagining variations of the figure through

all intermediate stages from one case to another. Thus, the angle between two lines that cut a circle is measured by a proper combination of the two arcs cut out of the circle by the two lines. As the vertex of the angle passes from the center of the circle to the circumference and thence to the outside of the circle, the rule changes, but these changes may be borne in mind, and the entire scheme may be grasped, by imagining a continuous change from the one position to the other, following all the time the changes in the intercepted arcs. The angle between a secant and a tangent is measured in a manner that can best be grasped by another such continuous motion, watching the changes in the measuring arcs as the motion occurs. Such observations are essentially functional in character, for they consist in careful observations of the relationships between the angle to be measured and the arcs that measure it.

4. *Motion*.—The preceding discussion of variable figures leads naturally to a discussion of actual motion. As figures move, either in whole or in part, the relationships between the quantities involved may change. To note these changes is to study the functional relationships between the parts of the figures. Without the functional idea, geometry would be wholly *static*. The study of fixed figures should not be the sole purpose of a course in geometry, for the uses of geometry are not wholly on static figures. Indeed, in all machinery, the geometric figures formed are in continual motion, and the shapes of the figures formed by the moving parts change. The study of motion and of moving forms, the *dynamic* aspects of geometry, should be given at least some consideration. Whenever this is done, the functional relations between the parts become of prime importance. Thus a linkage of the form of a parallelogram can be made more nearly rectangular by making the diagonals more nearly equal, and the linkage becomes a rectangle if the diagonals are made exactly equal. This principle is used in practice in making a rectangular framework precisely true.

5. *Proportionality theorems*.—All theorems which assert that certain quantities are in proportion to certain others, are obviously functional in character. Thus even the simplest theorems on rectangles assert that the area of a rectangle is directly proportional to its height, if the base is fixed. When more serious theorems are reached, such as the theorems on similar triangles, the functional ideas involved are worthy of considerable attention. That this is eminently true will be realized by all to whom trigonometry is familiar, for the trigonometric functions are nothing but the ratios of the sides of right triangles. But even in the field of elementary geometry a clear understanding of the relation between the areas (and volumes) of similar figures and the corresponding linear dimensions is of prime importance.

RELATIONSHIPS IN TRIGONOMETRY.

The existence of functional relationships in trigonometry is evidenced by the common use of the words "trigonometric functions" to describe the trigonometric ratios. Thus the sine of an angle is a definite ratio, whose value depends upon and is determined by the size of the angle to which it refers. The student should be made conscious of this relationship and he should be asked such questions as the following: Does the sine of an angle increase or decrease as the angle changes from zero to 90° ? If the angle is doubled, does the sine of the angle double? If not, is the sine of double the angle more or less than twice the sine of the original angle? How does the value of the sine behave as the angle increases from 90 to 180° ? From 180 to 270° ? From 270 to 360° ? Similar questions may be asked for the cosine and for the tangent of an angle.

Such questions may be reinforced by the use of figures that illustrate the points in question. Thus an angle twice a given angle should be drawn, and its sine should be estimated from the figure. A central angle and an inscribed angle on the same arc may be drawn in any circle. If they have one side in common, the relations between their sines will be more apparent. Finally the relationships that exist may be made vivid by actual comparison of the numerical values found from the trigonometric tables.

Not only in these first functional definitions, however, but in a variety of geometric figures throughout trigonometry do functional relations appear. Thus the law of cosines states a definite relationship between the three sides of a triangle and any one of the angles. How will the angle be affected by increase or decrease of the side opposite it, if the other two sides remain fixed? How will the angle be affected by an increase or a decrease of one of the adjacent sides, if the other two sides remain fixed? Are these statements still true if the angle in question is obtuse?

As another example, the height of a tree, or the height of a building, may be determined by measuring the two angles of elevation from two points on the level plain in a straight line with its base. A formula for the height (h) in terms of these two angles (A, B) and the distance (d) between the points of observation, may be easily written down ($h = d \sin A \sin B / \sin (A - B)$). Then the effect upon the height of changes in one of these angles may be discussed.

In a similar manner, every formula that is given or derived in a course on trigonometry may be discussed with profit from the functional standpoint.

CONCLUSION.

In conclusion, mention should be made of the great rôle which the idea of functions plays in the life of the world about us. Even when no calculation is to be carried out, the problems of real life frequently

involve the ability to think correctly about the nature of the relationships which exist between related quantities. Specific mention has been made already of this type of problem in connection with interest on money. In everyday affairs, such as the filling out of formulas for fertilizers or for feeds, or for spraying mixtures on the farm, the similar filling out of recipes for cooking (on different scales from that of the book of recipes), or the proper balancing of the ration in the preparation of food, many persons are at a loss on account of their lack of training in thinking about the relations between quantities. Another such instance of very common occurrence in real life is in insurance. Very few men or women attempt intelligently to understand the meaning and the fairness of premiums on life insurance and on other forms of insurance, chiefly because they can not readily grasp the relations of interest and of chance that are involved. These relations are not particularly complicated and they do not involve any great amount of calculation for the comprehension of the meaning and of the fairness of the rates. Mechanics, farmers, merchants, housewives, as well as scientists, and engineers have to do constantly with quantities of things, and the quantities with which they deal are related to other quantities in ways that require clear thinking for maximum efficiency.

One element that should not be neglected is the occurrence of such problems in public questions which must be decided by the votes of the whole people. The tariff, rates of postage and express, freight rates, regulation of insurance rates, income taxes, inheritance taxes, and many other public questions involve relationships between quantities—for example, between the rate of income taxation and the amount of the income—that require habits of functional thinking for intelligent decisions. The training in such habits of thinking is therefore a vital element toward the creation of good citizenship.

It is believed that transfer of training does operate between such topics as those suggested in the body of this paper and those just mentioned, because of the existence of such identical or common elements, whereas the transfer of the training given by courses in mathematics that do not emphasize functional relationships might be questionable.

While this account of the functional character of certain topics in geometry and in algebra makes no claim to being exhaustive, the topics mentioned will suggest others of like character to the thoughtful teacher. It is hoped that sufficient variety has been mentioned to demonstrate the existence of functional ideas throughout elementary algebra and geometry. The committee feels that if this is recognized, algebra and geometry can be given new meaning to many children, and that all students will be better able to control the actual relations which they meet in their own lives.

Chapter VIII.

TERMS AND SYMBOLS IN ELEMENTARY MATHEMATICS.¹

A. Limitations imposed by the committee upon its work.—The committee feels that in dealing with this subject it should explicitly recognize certain general limitations, as follows:

1. No attempt should be made to impose the phraseology of any definition, although the committee should state clearly its general views as to the meaning of disputed terms.

2. No effort should be made to change any well-defined current usage unless there is a strong reason for doing so, which reason is supported by the best authority, and, other things being substantially equal, the terms used should be international. This principle excludes the use of all individual efforts at coining new terms except under circumstances of great urgency. The individual opinions of the members, as indeed of any teacher or body of teachers, should have little weight in comparison with general usage if this usage is definite. If an idea has to be expressed so often in elementary mathematics that it becomes necessary to invent a single term or symbol for the purpose, this invention is necessarily the work of an individual; but it is highly desirable, even in this case, that it should receive the sanction of wide use before it is adopted in any system of examinations.

3. On account of the large number of terms and symbols now in use, the recommendations to be made will necessarily be typical rather than exhaustive.

I. GEOMETRY.

B. Undefined terms.—The committee recommends that no attempt be made to define, with any approach to precision, terms whose definitions are not needed as parts of a proof.

Especially is it recommended that no attempt be made to define precisely such terms as *space*, *magnitude*, *point*, *straight line*, *surface*, *plane*, *direction*, *distance*, and *solid*, although the significance of such terms should be made clear by informal explanations and discussions.

C. Definite usage recommended.—It is the opinion of the committee that the following general usage is desirable:

1. *Circle* should be considered as the curve; but where no ambiguity arises, the word "circle" may be used to refer either to the curve or to the part of the plane inclosed by it.

¹ The first draft of this chapter was prepared by a subcommittee consisting of David Eugene Smith (chairman), W. W. Hart, H. E. Hawkes, E. R. Hedrick, and H. E. Slaught. It was revised by the national committee at its meeting December 29 and 30, 1920.

2. *Polygon* (including *triangle*, *square*, *parallelogram*, and the like) should be considered, by analogy to a circle, as a closed broken line; but where no ambiguity arises, the word *polygon* may be used to refer either to the broken line or to the part of the plane inclosed by it. Similarly, *segment of a circle* should be defined as the figure formed by a chord and either of its arcs.

3. *Area of a circle* should be defined as the area (numerical measure) of the portion of the plane inclosed by the circle. *Area of a polygon* should be treated in the same way.

4. *Solids*. The usage above recommended with respect to plane figures is also recommended with respect to solids. For example, *sphere* should be regarded as a surface, its volume should be defined in a manner similar to the area of a circle, and the double use of the word should be allowed where no ambiguity arises. A similar usage should obtain with respect to such terms as *polyhedron*, *cone*, and *cylinder*.

5. *Circumference* should be considered as the length (numerical measure) of the circle (line). Similarly, *perimeter* should be defined as the length of the broken line which forms a polygon; that is, as the sum of the lengths of the sides.

6. *Obtuse angle* should be defined as an angle greater than a right angle and less than a straight angle, and should therefore not be defined merely as an angle greater than a right angle.

7. The term *right triangle* should be preferred to "right-angled triangle," this usage being now so standardized in this country that it may properly be continued in spite of the fact that it is not international. Similarly for *acute triangle*, *obtuse triangle*, and *oblique triangle*.

8. Such English plurals as *formulas* and *polyhedrons* should be used in place of the Latin and Greek plurals. Such unnecessary Latin abbreviations as *Q. E. D.* and *Q. E. F.* should be dropped.

9. The definitions of *axiom* and *postulate* vary so much that the committee does not undertake to distinguish between them.

D. Terms made general.—It is the recommendation of the committee that the modern tendency of having terms made as general as possible should be followed. For example:

1. *Isosceles triangle* should be defined as a triangle having two equal sides. There should be no limitation to two and only two equal sides.

2. *Rectangle* should be considered as including a square as a special case.

3. *Parallelogram* should be considered as including a rectangle, and hence a square, as a special case.

4. *Segment* should be used to designate the part of a straight line included between two of its points as well as the figure formed by an

arc of a circle and its chord, this being the usage generally recognized by modern writers.

E. Terms to be abandoned.—It is the opinion of the committee that the following terms are not of enough consequence in elementary mathematics at the present time to make their recognition desirable in examinations, and that they serve chiefly to increase the technical vocabulary to the point of being burdensome and unnecessary:

1. *Antecedent and consequent.*

2. *Third proportional and fourth proportional.*

3. *Equivalent.* An unnecessary substitute for the more precise expressions "equal in area" and "equal in volume," or (where no confusion is likely to arise) for the single word "equal."

4. *Trapezium.*

5. *Scholium, lemma, oblong, scalene triangle, sect, perigon, rhomboid* (the term "oblique parallelogram" being sufficient), and *reflex angle* (in elementary geometry).

6. Terms like *flat angle, whole angle, and conjugate angle* are not of enough value in an elementary course to make it desirable to recommend them.

7. *Subtend*, a word which has no longer any etymological meaning to most students and teachers of geometry. While its use will naturally continue for some time to come, teachers may safely incline to such forms as the following: "In the same circle equal arcs have equal chords."

8. *Homologous*, the less technical term "corresponding" being preferable.

9. Guided by principle A2 and its interpretation, the committee advises against the use of such terms as the following: *Angle-bisector, angle-sum, consecutive interior angles, supplementary consecutive exterior angles, quader* (for rectangular solid), *sect, explement, transverse angles.*

10. It is unfortunate that it still seems to be necessary to use such a term as *parallelepiped*, but we seem to have no satisfactory substitute. For rectangular parallelepiped, however, the use of *rectangular solid* is recommended. If the terms were more generally used in elementary geometry it would be desirable to consider carefully whether better ones could not be found for the purposes than *isoperimetric, apothem, icosahedron, and dodecahedron.*

F. Symbols in elementary geometry.—It should be recognized that a symbol like \perp is merely a piece of shorthand designed to afford an easy grasp of a written or printed statement. Many teachers and a few writers make an extreme use of symbols, coining new ones to meet their own views as to usefulness, and this practice is

naturally open to objection.² There are, however, certain symbols that are international and certain others of which the meaning is at once apparent and which are sufficiently useful and generally enough recognized to be recommended.

For example, the symbols for triangle, Δ , and circle, \odot , are international, although used more extensively in the United States than in other countries. Their use, with their customary plurals, is recommended.

The symbol \perp , generally read as representing the single word "perpendicular" but sometimes as standing for the phrase "is perpendicular to," is fairly international and the meaning is apparent. Its use is therefore recommended. On account of such a phrase as "the $\perp AB$," the first of the above readings is likely to be the more widely used, but in either case there is no chance for confusion.

The symbol \parallel for "parallel" or "is parallel to" is fairly international and is recommended.

The symbol \sim for "similar" or "is similar to" is international and is recommended.

The symbols \cong and \equiv for "congruent" or "is congruent to" both have a considerable use in this country. The committee feels that the former, which is fairly international, is to be preferred because it is the more distinctive and suggestive.

The symbol \angle for "angle" is, because of its simplicity, coming to be generally preferred to any other and is therefore recommended.

Since the following terms are not used frequently enough to render special symbols of any particular value, the world has not developed any that have general acceptance, and there seems to be no necessity for making the attempt: Square, rectangle, parallelogram, trapezoid, quadrilateral, semicircle.

The symbol \widehat{AB} for "arc AB " can not be called international. While the value of the symbol \frown in place of the short word *arc* is doubtful, the committee sees no objection to its use.

The symbol \therefore for "therefore" has a value that is generally recognized, but the symbol \because for "since" is used so seldom that it should be abandoned.

With respect to the lettering of figures, the committee calls attention for purposes of general information to a convenient method, found in certain European and in some American textbooks, of lettering triangles: Capitals represent the vertices, corresponding small letters represent opposite sides, corresponding small Greek letters represent angles, and the primed letters represent the corresponding parts of a congruent or similar triangle. This permits of

² This is not intended to discourage the use of algebraic methods in the solution of such geometric problems as lend themselves readily to algebraic treatment.

speaking of α (alpha) instead of "angle A," and of "small a " instead of BC . The plan is by no means international with respect to the Greek letters. The committee is prepared, however, to recommend it with the optional use of the Greek forms.

In general, it is recommended that a single letter be used to designate any geometric magnitude, whenever there is no danger of ambiguity. The use of numbers alone to designate magnitudes should be avoided by the use of such forms A_1, A_2, \dots .

With respect to the symbolism for limits, the committee calls attention to the fact that the symbol \doteq is a local one, and that the symbol \rightarrow (for "tends to") is both international and expressive and has constantly grown in favor in recent years. Although the subject of limits is not generally treated scientifically in the secondary school, the idea is mentioned in geometry and a symbol may occasionally be needed.

While the teacher should be allowed freedom in the matter, the committee feels that it is desirable to discourage the use of such purely local symbols as the following:

\doteq for "equal in degrees,"

ass for "two sides and an angle adjacent to one of them," and

sas for "two sides and the included angle."

G. Terms not standardized.—At the present time there is not sufficient agreement upon which to base recommendations as to the use of the term *ray* and as to the value of terms like *coplanar*, *collinear*, and *concurrent* in elementary work. Many terms, similar to these, will gradually become standardized or else will naturally drop out of use.

II. ALGEBRA AND ARITHMETIC.

H. Terms in algebra.—1. With respect to equations the committee calls attention to the fact that the classification according to degree is comparatively recent and that this probably accounts for the fact that the terminology is so unsettled. The Anglo-American custom of designating an equation of the first degree as a *simple equation* has never been satisfactory, because the term has no real significance. The most nearly international terms are *equation of the first degree* (or "first degree equation") and *linear equation*. The latter is so brief and suggestive that it should be generally adopted.

2. The term *quadratic equation* (for which the longer term "second degree equation" is an unnecessary synonym, although occasionally a convenient one) is well established. The terms *pure quadratic* and *affected quadratic* signify nothing to the pupil except as he learns the meaning from a book, and the committee recommends that they be dropped. Terms more nearly in general use are *complete quadratic* and *incomplete quadratic*. The committee feels, however, that the

distinction thus denoted is not of much importance and believes that it can well be dispensed with in elementary instruction.

3. As to other special terms, the committee recommends abandoning, so far as possible, the use of the following: *Aggregation* for grouping; *vinculum* for bar; *evolution* for finding roots, as a general topic; *involution* for finding powers; *extract* for find (a root); *absolute term* for constant term; *multiply an equation, clear of fractions, cancel* and *transpose*, at least until the significance of the terms is entirely clear; *aliquot part* (except in commercial work).

4. The committee also advises the use of either *system of equations* or *set of equations* instead of "simultaneous equations," in such an expression as "solve the following set of equations," in view of the fact that at present no well established definite meaning attaches to the term "simultaneous."

5. The term *simplify* should not be used in cases where there is possibility of misunderstanding. For purposes of computation, for example, the form $\sqrt{8}$ may be simpler than the form $2\sqrt{2}$, and in some cases it may be better to express $\sqrt{\frac{3}{4}}$ as $\sqrt{0.75}$ instead of $\frac{1}{2}\sqrt{3}$. In such cases, it is better to give more explicit instructions than to use the misleading term "simplify."

6. The committee regrets the general uncertainty in the use of the word *surd*, but it sees no reasonable chance at present of replacing it by a more definite term. It recognizes the difficulty generally met by young pupils in distinguishing between *coefficient* and *exponent*, but it feels that it is undesirable to attempt to change terms which have come to have a standardized meaning and which are reasonably simple. These considerations will probably lead to the retention of such terms as *rationalize*, *extraneous root*, *characteristic*, and *mantissa*, although in the case of the last two terms "integral part" and "fractional part" (of a logarithm) would seem to be desirable substitutes.

7. While recognizing the motive that has prompted a few teachers to speak of "positive x " instead of "plus x ," and "negative y " instead of "minus y ," the committee feels that attempts to change general usage should not be made when based upon trivial grounds and when not sanctioned by mathematicians generally.

I. Symbols in algebra.—The symbols in elementary algebra are now so well standardized as to require but few comments in a report of this kind. The committee feels that it is desirable, however, to call attention to the following details:

1. Owing to the frequent use of the letter x , it is preferable to use the center dot (a raised period) for multiplication in the few cases in which any symbol is necessary. For example, in a case like $1 \cdot 2 \cdot 3 \cdots (x-1) \cdot x$, the center dot is preferable to the symbol \times ; but

in cases like $2a(x-a)$ no symbol is necessary. The committee recognizes that the period (as in $a.b$) is more nearly international than the center dot (as in $a \cdot b$); but inasmuch as the period will continue to be used in this country as a decimal point, it is likely to cause confusion, to elementary pupils at least, to attempt to use it as a symbol for multiplication.

2. With respect to division, the symbol \div is purely Anglo-American, the symbol $:$ serving in most countries for division as well as ratio. Since neither symbol plays any part in business life, it seems proper to consider only the needs of algebra, and to make more use of the fractional form and (where the meaning is clear) of the symbol $/$, and to drop the symbol \div in writing algebraic expressions.

3. With respect to the distinction between the use of $+$ and $-$ as symbols of operation and as symbols of direction, the committee sees no reason for attempting to use smaller signs for the latter purpose, such an attempt never having received international recognition, and the need of two sets of symbols not being sufficient to warrant violating international usage and burdening the pupil with this additional symbolism.

4. With respect to the distinction between the symbols \equiv and $=$ as representing respectively identity and equality, the committee calls attention to the fact that, while the distinction is generally recognized, the consistent use of the symbols is rarely seen in practice. The committee recommends that the symbol \equiv be not employed in examinations for the purpose of indicating identity. The teacher, however, should use both symbols if desired.

5. With respect to the root sign, $\sqrt{\quad}$, the committee recognizes that convenience of writing assures its continued use in many cases instead of the fractional exponent. It is recommended, however, that in algebraic work involving complicated cases the fractional exponent be preferred. Attention is also called to the fact that the convention is quite generally accepted that the symbol \sqrt{a} (a representing a positive number) means only the positive square root and that the symbol $\sqrt[n]{a}$ means only the principal n th root, and similarly for $a^{1/2}$, $a^{1/n}$. The reason for this convention is apparent when we come to consider the value of $\sqrt{4} + \sqrt{9} + \sqrt{16} + \sqrt{25}$. This convention being agreed to, it is improper to write $x = \sqrt{4}$, as the complete solution of $x^2 - 4 = 0$, but the result should appear as $x = \pm \sqrt{4}$. Similarly, it is not in accord with the convention to write $\sqrt{4} = \pm 2$, the conventional form being $\pm \sqrt{4} = \pm 2$; and for the same reason it is impossible to have $\sqrt{(-1)^2} = -1$, since the symbol refers only to a positive root. These distinctions are not matters to be settled by the individual opinion of a teacher or a local group of

the impression of being difficult and a mere juggling of words and symbols.

3. While recognizing the claims of euphony, the fact that a word like "historic" has a different meaning from "historical" and that confusion may occasionally arise if "arithmetic" is used as an adjective with a different pronunciation from the noun, the committee advises that such forms as geometric be preferred to geometrical. This is already done in such terms as analytic geometry and elliptic functions, and it seems proper to extend the custom to include *arithmetic, geometric, graphic*, and the like.

L. General recommendations.—In view of the desirability of a simplification of terms used in elementary instruction, and of establishing international usage so far as is reasonable, the committee recommends that the subject of this report be considered by a committee to be appointed by Section IV of the next International Congress of Mathematicians, such committee to contain representatives of at least the recognized international languages admitted to the meetings.

2. The committee suggests that examining bodies, contributors to mathematical journals, and authors of textbooks endeavor to follow the general principles formulated in this report.

except when used before a decimal fraction to indicate the absence of integers or, in general, when used merely to locate the decimal point. For example, the zeros underscored in the following are "significant," while the others are not: 0.5, 9.50, 102, 30,200. Further, the number 2396, if expressed correct to three significant figures, would be written 2400.³ It should be noted that the context or the way in which a number has been obtained is sometimes the determining factor as to the significance of a 0.

3. The pupil in arithmetic needs to see the work in the form in which he will use it in practical life outside the schoolroom. His visualization of the process should therefore not include such symbols as $+$, $-$, \times , \div , which are helpful only in writing out the analysis of a problem or in the printed statement of the operation to be performed. Because of these facts the committee recommends that only slight use be made of these symbols in the written work of the pupil, except in the analysis of problems. It recognizes, however, the value of such symbols in printed directions and in these analyses.

III. GENERAL OBSERVATIONS AND RECOMMENDATIONS.

K. General observations.—The committee desires also to record its belief in two or three general observations.

1. It is very desirable to bring mathematical writing into closer touch with good usage in English writing in general. That we have failed in this particular has been the subject of frequent comment by teachers of mathematics as well as by teachers of English. This is all the more unfortunate because mathematics may be and should be a genuine help toward the acquisition of good habits in the speaking and writing of English. Under present conditions, with a style that is often stilted and in which undue compression is evident, we do not offer to the student the good models of English writing of which mathematics is capable, nor indeed do we always offer good models of thought processes. It is to be feared that many teachers encourage the use of a kind of vulgar mathematical slang when they allow such words as "tan" and "cos," for tangent and cosine, and habitually call their subject by the title "math."

2. In the same general spirit the committee wishes to observe that teachers of mathematics and writers of textbooks seem often to have gone to an extreme in searching for technical terms and for new symbols. The committee expresses the hope that mathematics may retain, as far as possible, a literary flavor. It seems perfectly feasible that a printed discussion should strike the pupil as an expression of reasonable ideas in terms of reasonable English forms. The fewer technical terms we introduce, the less is the subject likely to give

³ The underscoring of significant zeros is here used merely to make clear the committee's meaning. The device is not recommended for general adoption.

**CHAPTER XIII.—STANDARDIZED TESTS IN MATHEMATICS FOR
SECONDARY SCHOOLS. By C. B. Upton.**

A description of various standard tests in arithmetic, algebra, and geometry, and a discussion of their use in the teaching of mathematics. The tests considered are the following: The Curtis arithmetic tests, the Woody arithmetic scales, the Woody-McCall arithmetic test, the Stone reasoning tests, the Curtis standard practice tests in arithmetic, the Studebaker practice exercises in arithmetic, the Rugg-Clark practice exercises in first-year algebra, the Hotz first-year algebra scales, the Kelly mathematical values test, the Minnick geometry tests, the Rogers prognostic tests of mathematical ability, and others.

**CHAPTER XIV.—THE TRAINING OF TEACHERS OF MATHEMATICS.
By R. C. Archibald.**

A selection from the results of an extended and detailed investigation, covering every State in the Union and all the larger cities, concerning present conditions regarding the training of teachers of mathematics, the facilities for providing such training, and the requirements for certification. The selection is made for the purpose of exhibiting the highest standards to be found in various parts of the country and the courses of study for the training of teachers given in various institutions. The chapter also includes a brief survey of conditions in certain foreign countries.

**CHAPTER XV.—CERTAIN QUESTIONNAIRE INVESTIGATIONS. By
W. F. Downey, A. R. Crathorne, Alfred Davis, and others.**

These investigations relate to the interests of high-school pupils, change of mind as to life work between high school and college, the importance of mathematics, etc.

**CHAPTER XVI.—BIBLIOGRAPHY ON THE TEACHING OF MATHEMATICS.
By D. E. Smith and J. A. Foberg.**

This bibliography lists all the articles relating to mathematics that have appeared since 1910 in a number of leading educational periodicals, and gives in addition to author, title, and place of publication a brief summary of each article.

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